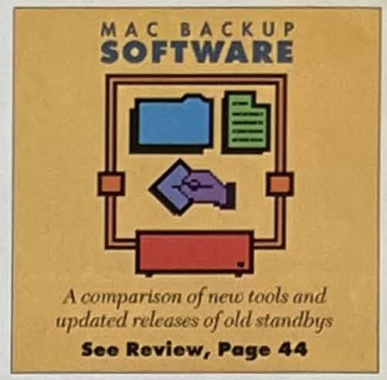
# MacWEEK

02.10.92 Volume 6 Number 6 THE NEWSWEEKLY FOR MACINTOSH MANAGERS


*A comparison of new tools and updated releases of old standbys*

**See Review, Page 44**

## Excel 4.0: Workbooks, Wizards, Toolbars and Scenarios due by July

**By Andrew Gore**

Redmond, Wash. — A new version of Microsoft Excel, boasting several new power features and an improved interface, is slated to ship by July, according to sources.

Version 4.0 of the best-selling Mac spreadsheet will turn loose the Toolbar, an icon bar Microsoft Corp. introduced in fixed form in Excel 3.0. In the new version, users will be able to create any number of floating Toolbars, customize them with icons that execute any Excel function and tear them off for display anywhere on screen.

Other interface improvements include menus that change according to the object or tool selected and the ability to select a range of cells and drag the selection to another location on the worksheet.

The new version also will provide an intelligent auto-fill command, which can fill in a range of cells based on the content of the first cell. For instance, if a user selects a cell with January filled in, Excel will fill in the subsequent cells in the selec-

*See Excel, Page 102*

**Excel's next move**

- Drag and drop ranges of cells
- Auto-fill command
- Customizable Toolbars
- Spreadsheet Workbooks
- Wizards for doing common tasks
- Scenario Manager for "what-ifs"

## New architecture to simplify printing for users, developers

**By Neil McManus and Carolyn Said**

Cupertino, Calif. — A new print architecture from Apple should simplify life for users when they print and for developers when they write drivers, sources said.

Apple is expected to release an alpha version of the new architecture, first described in 1989, to developers at its Worldwide Developers Conference in May. The architecture, which will come in the form of an extension to System 7, probably won't reach users until early next year, sources said. Apple had no comment.

"It sounds great — at least on paper," said Craig Cline, associate editor of the Seybold Reports in Malibu, Calif. "The functions [the new architecture provides] should make the Mac more useful and more flexible."

For users, the architecture will simplify some aspects of printing as well as add some features.

Users will be able to print by simply dragging document files to printer icons on the desktop. "Windows 3.1 will have that capability, so the Mac should as well," Cline said. NeXT Computer Inc.'s machines

*See Print architecture, Page 103*

## Faster drivers slow in coming

**By Neil McManus**

Mountain View, Calif. — Users will have to wait until late summer for the next-generation LaserWriter driver, which offers PostScript Level 2 support and a speed increase of up to tenfold.

Adobe Systems Inc. and Apple, co-developers of the driver, originally promised to release it this spring (see MacWEEK, Oct. 8, 1991). However, the development team is taking additional time to test the driver for compatibility with Mac applications, according to Eric Rogge, product marketing manager of PostScript drivers.

"A lot of people are looking at their watches saying, 'Is it ready yet?

*See Drivers, Page 104*

## NetWare SQL 3.0 will answer Macs when DAL calls

**By Mitch Ratcliffe**

Boston — A fusillade of initiatives launched by Novell Inc. around this week's NetWorld 92 could have the net effect of bringing the Macintosh closer to the corporate database mainstream.

The company will announce here this week that NetWare SQL 3.0, the next version of its data-access software for NetWare servers, will support Apple's Database Access Language (DAL). The result will be that Mac users running any DAL-compliant application will have immediate access to data stored in hundreds of programs that support NetWare SQL.

The Novell software, due next month, will work with off-the-shelf applications such as Microsoft Excel or Lotus 1-2-3; custom applications created with HyperCard or ACIUS Inc.'s 4th Dimension; and Mac query tools such as Andyne Computing Inc.'s GQL, Brio Technology Inc.'s DataPrism and Fairfield Software Inc.'s ClearAccess.

NetWare SQL, a NetWare loadable module (NLM), will layer Apple's DAL Server software over a NetWare 3.11 server running on an Intel 80386- or 80486-based computer. Mac users must be running Version 3.01 of Novell's NetWare for the Mac client software, plus Apple's DAL client system extension.

The new NLM will translate queries from DAL, Apple's SQL-

*See Novell, Page 104*

# OCE opens new Worlds

*Messaging interface: Wrap, drag, drop*

**By Mitch Ratcliffe**

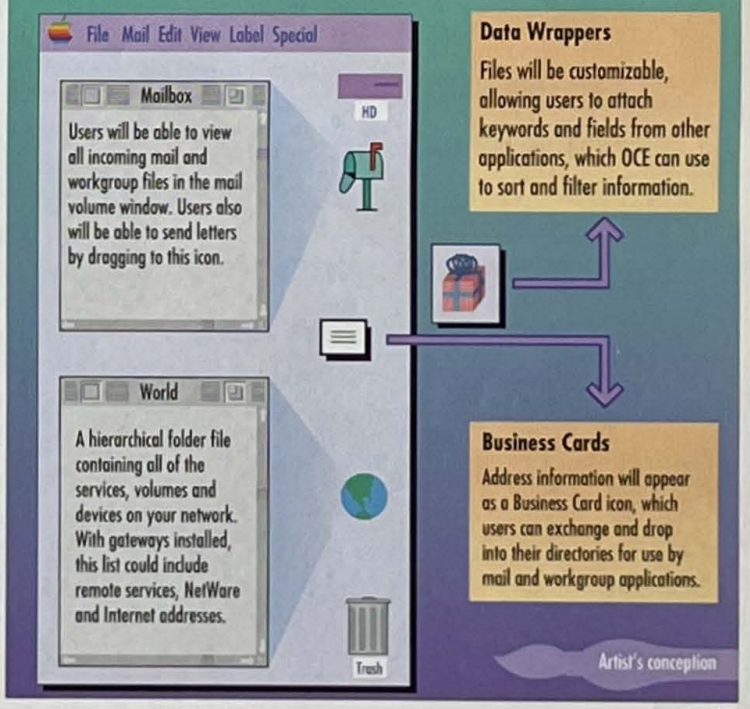
San Francisco — As details about Apple's Open Collaboration Environment emerge, users are getting a picture of a radically new way to work with Macintoshes.

OCE, which sources said is now expected in October, will add a suite of messaging and directory services to the Mac operating system (see MacWEEK, Jan. 20). It will provide a familiar, Finder-based interface for network-communications operations that now require specialized procedures and front ends. And it will make it easy for developers to add collaborative capabilities to virtually any application.

Much of OCE will be invisible to users, but they will see its effect on the Finder immediately after installation. Two new volumes, depicted by World and Mailbox icons in current prototypes, will appear on the desktop.

*See OCE, Page 103*

**OCE shapes a brave new Finder**


File Mail Edit View Label Special
Mailbox
Users will be able to view all incoming mail and workgroup files in the mail volume window. Users also will be able to send letters by dragging to this icon.
HD
World
A hierarchical folder file containing all of the services, volumes and devices on your network. With gateways installed, this list could include remote services, NetWare and Internet addresses.
Trash
Data Wrappers
Files will be customizable, allowing users to attach keywords and fields from other applications, which OCE can use to sort and filter information.
Business Cards
Address information will appear as a Business Card icon, which users can exchange and drop into their directories for use by mail and workgroup applications.
Artist's conception

KEVIN BERGER

## VIM more vigorous than OMI

*Mail standard gets broader backing*

**By Mitch Ratcliffe**

Redwood City, Calif. — Forget what they said about the Open Messaging Interface just five months ago. Apple, Lotus Development Corp. and Novell Inc. said here last week that they plan to develop a new programming interface for messaging- and mail-enabled applications that will supersede OMI.

The three companies, joined by Borland International Inc., said they will serve as trustees and developers of the new standard, an application programming interface (API) called the Vendor-Independent Messaging (VIM) interface. Developers writing to VIM will be able to plug any E-mail or collaborative application front end into cross-platform networks without having to allow for format translations.

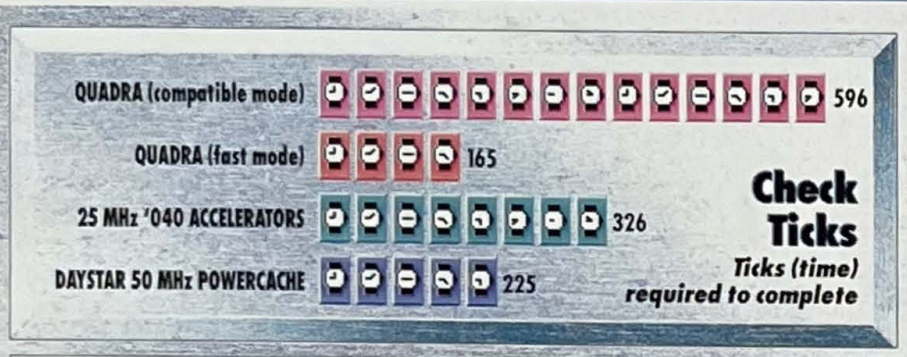
In September, Apple and IBM Corp. endorsed the OMI API, which was to be written by Lotus. But OMI, originally due in December, has not shipped.

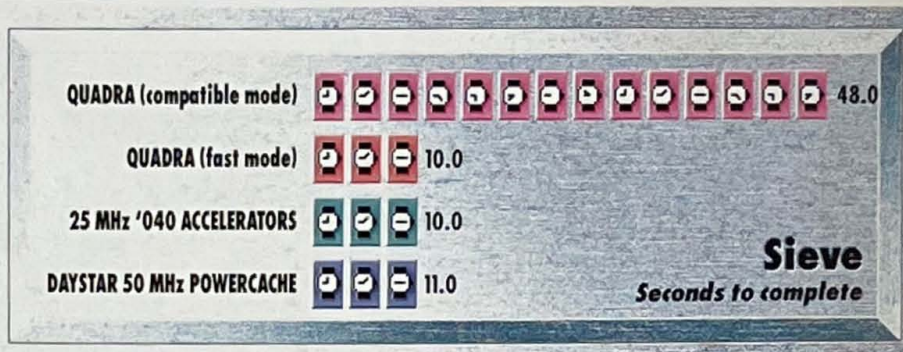
VIM, however, will offer capabilities superior to those of the stillborn Lotus standard, according

*See VIM, Page 102*

NEWSPAPER SECOND CLASS

# How Does Our PowerCache Accelerator Compare?


QUADRA (compatible mode) 596
QUADRA (fast mode) 165
25 MHz '040 ACCELERATORS 326
DAYSTAR 50 MHz POWERCACHE 225
Check Ticks
Ticks (time) required to complete



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QUADRA (fast mode) 7.6
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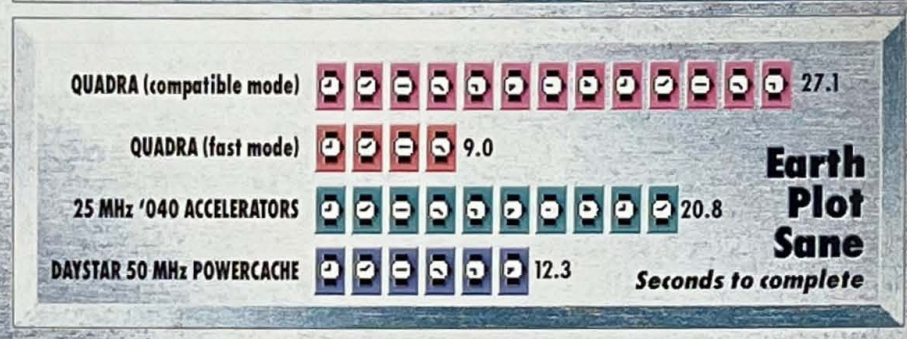
DAYSTAR 50 MHz POWERCACHE 9.4
Earth Plot Integer
Seconds to complete


QUADRA (compatible mode) 27.1
QUADRA (fast mode) 9.0
25 MHz '040 ACCELERATORS 20.8
DAYSTAR 50 MHz POWERCACHE 12.3
Earth Plot Sane
Seconds to complete

QUADRA (compatible mode) 291
QUADRA (fast mode) 88
25 MHz '040 ACCELERATORS 144
DAYSTAR 50 MHz POWERCACHE 116
Timed Lines
Ticks (time) required to complete

**All above MacWEEK benchmarks were performed with System 7.0.1 installed.**

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# As prices fall, so do supplies: LC, IIci, IIsi tough to come by

**By Andrew Gore**

Cupertino, Calif. — While Mac prices have dropped to record lows, the two models that took the biggest cuts also are the hardest to find.

▸ **Mac LC.** In a message to dealers, Apple reportedly warned that the current 68020-based Mac LC will be in increasingly short supply as it "gradually downgrades production" in preparation for the new model.

**LC, the second generation**

**Mac LC**
- 16-MHz 68020 processor
- '020 PDS
- No FPU slot
- Price: $1,699

**Mac LC II**
- 16-MHz 68030 processor
- '030 PDS (compatible with '020 PDS cards)
- FPU slot
- Price: $1,699

The replacement product, sources said, is a low-cost color system called the Mac LC II that will incorporate a 68030, an 030 Direct Slot and a socket for a math coprocessor, features lacking in the original. The LC II is slated to make its debut on March 23.

While the current LC's new $1,699 price tag is attractive, corporate buyers said a shortage won't be a problem because the '020 Mac doesn't meet their minimum requirements.

▸ **Mac IIci and IIsi.** Of greater concern to Mac managers and resellers are reports that the IIci and IIsi are on temporary back-order while Apple shifts part of its production from its Fremont, Calif., plant to its new Fountain, Colo., facility.

"We've been quoted four to five weeks before we'll get another order," said Bob Zellin, principal and manager at Di-No Computers in Pasadena, Calif. "We've got a few IIci units in stock, but not enough to last a month. This'll be a much bigger problem for us than not getting LCs."

Buyers agreed that a IIci shortage could be trouble. "We don't buy too many LCs; we almost exclusively buy the IIci," said Bruce Whetstone, manager of information technologies at Amgen Inc. in Thousand Oaks, Calif.

Whetstone added that when the Mac LC II ships, it could change his mind about the low-cost Mac.

"We're trying to save on the budget and the new LC might just fit the bill," he said. □

# Motion Works gets help moving

**By Raines Cohen**

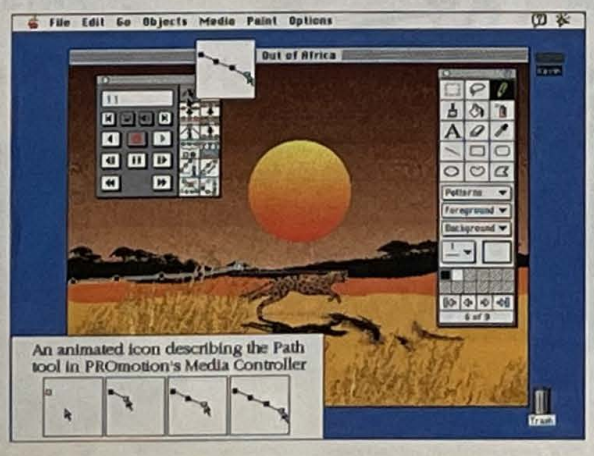
Vancouver, British Columbia — If balloon help can't adequately explain an application's interface, developers can soon give users some extra help that moves.

Motion Works International said it found System 7's balloon help too distracting and inadequate to fully explain tools in its own applications, PROmotion and ADDmotion II. So it developed a tool, code-named Scenario, that lets developers supplement Apple's balloon help with animated help. Motion Works will license the tool this spring to other developers so they can add the same functions to their own applications.

Users of an application with animated help can just Command-Option-click a tool on a palette or a button on a dialog box to trigger an animation showing what the item does. For instance, the animated help for PROmotion's Paint tool shows it painting, and the Path tool's help shows the steps to modify an animation's path.

Each animation can comprise up to eight 64-by-64-pixel cels. Scenario will include PROmotion's paint tools for creating cels.

Motion Works is at 1020 Mainland St., Suite 130, Vancouver, British Columbia V6B 2T4, Canada. Phone (604) 685-9975; fax (604) 685-6105. □


File Edit Go Objects Media Paint Options
Out of Africa
An animated icon describing the Path tool in PROmotion's Media Controller

**Motion Works' new tool lets application developers create animated balloon help. For example, a user can Command-Option-click on PROmotion's Path tool to play an animation showing the steps required to modify an animation's path.**

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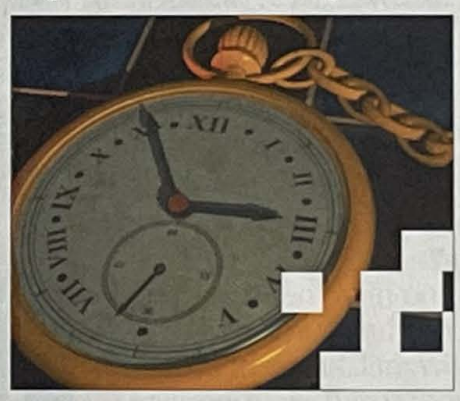

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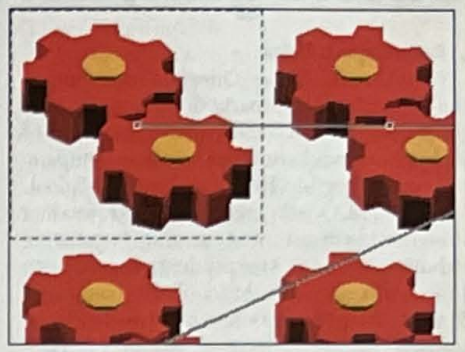

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# Odesta gone, but Mac staffers to take over Helix

By Dartanyan L. Brown

Northbrook, Ill. — Odesta Corp., one of the 40 original third-party developers of Mac software, last week ceased to exist, but some of its key personnel are forming a new company to keep its flagship Helix database line afloat.

A team of Odesta employees, with funding from outside investors, is currently negotiating to buy out Odesta's Mac products, according to Julie Lyon, formerly head of the company's Macintosh division. Sources said Lyon will lead the new company, which will take over responsibility for developing, marketing and supporting Double Helix as well as two new Mac products previously announced by Odesta, Double Helix/MultiMedia and ODMS/Matrix.

Lyon said last week she was confident of receiving enough funding from outside investors to "allow products to be independently developed and marketed to their full potential."

Odesta's technical support lines were being answered last week, and Steve Keller, a member of the support staff, said he anticipated no interruption of service.

The buyout will leave the new company free of the VAX-based versions of Double Helix and ODMS. Sources said those products, along with other VAX development projects, had proven a drain on Odesta's financial and management resources and a prime factor in its downfall.

"The Mac group can now tailor stuff for System 7 and have a great focus," said one Macintosh division employee who spoke on condition of anonymity. "We don't need the other people to do our stuff."

According to Lyon, "The focus will now be much tighter, and we will be free to do things that make more sense for the Macintosh. The key engineers, sales and marketing people that are vital to the Macintosh products have been retained."

The fate of the rest of the company was undetermined last week. Daniel Cheifetz, Odesta's founder and president, and David Rubins, its CEO, were unavailable for comment. Lyon said Cheifetz will head up another new company being formed around ODMS Release 2, a recent update to Odesta's VAX-based cross-platform workflow product (see MacWEEK, Jan. 27).

At least one outside company is apparently interested in keeping ODMS alive.

"We are talking to [Odesta] about a strategic alliance involving Release 2 technology," said James Saviano, chairman of CSC Partners, a Waltham, Mass., subsidiary of Computer Science Corp., a large systems integrator based in El Segundo, Calif. "They've got a lot of talented people, and the product is well-suited to solving a lot of white-collar problems."

Saviano said CSC was not interested in putting venture capital into Odesta, but "we want to see their business preserved." □

# Impulse boosts '040 cards for NuBus to 33 MHz

By Raines Cohen

Cumming, Ga. — Impulse Technology last week shipped a 33-MHz version of its 68040-based NuBus accelerator card.

The new $3,295 Performance/040 runs 30 percent faster than Apple's Mac Quadras and 70 percent faster than the Mac IIfx, according to the company.

To make room for the new card, Impulse dropped the price of its 25-MHz Performance/040 by $300 to $2,195. Current users can upgrade to the faster processor for $1,100.

Impulse is apparently the first vendor to ship an accelerator equipped with the 33-MHz '040. The chip, just released by Motorola Inc., is based on a new mask that fixes some problems that arose when the company tried to push up the clock speed of the original 25-MHz design.

Impulse's Performance/040 cards come with 1 Mbyte of RAM and eight SIMM (single in-line memory module) sockets that can accommodate up to 128 more Mbytes of RAM. A RAM disk utility optimized for the card is included, along with a control panel that automatically switches the '040's on-board cache to write-through (68030-compatible) mode, or disables it altogether, when the user launches an application that is not compatible with the new processor's default copy-back mode.

The Performance/040 cards carry a two-year warranty.

Impulse Technology is at 210 Dahlonega St., No. 205, Cumming, Ga. 30130. Phone (404) 889-8294; fax (404) 781-8738. □

# Bugs surface as Tune-Up disk updates printer drivers

By Matthew Rothenberg

Cupertino, Calif. — Users who have run Apple's System 7 Tune-Up disk on their Macs have encountered several glitches in the new printer drivers it installs.

The reported problems — some confirmed, others still under investigation — involve:

▸ **NetWare 3.11.** Novell Inc. of Provo, Utah, said Apple's new LaserWriter 7.1 driver does not work with Version 3.0 or 3.01 of NetWare for Macintosh, Novell's NetWare loadable module (NLM) for its NetWare 3.11 network operating system.

According to Steve Nelson, director of product marketing for Novell's Macintosh division, changes to some comments in the driver's PostScript header caused the glitch.

"It's certainly something that both Apple and Novell are aware of," Nelson said, "and both of us are working to get the printer server and driver back in sync." Until a fix ships, Nelson said, users of NetWare for Mac should replace the 7.1 driver with Version 7.0 or an earlier driver.

▸ **LaserWriter and LaserWriter Plus.** Some users have reported printing errors when using the 7.1 driver with the original LaserWriter models.

Apple spokeswoman Jackie Promes said the company is aware of a problem involving the LaserWriter Plus. It will be addressed in the next version of the driver, she said, but in the meantime the company is recommending that users stick with or reinstall the 7.0 driver.

▸ **StyleWriter.** Some users also reported incompatibilities with Version 7.2.2 of Apple's StyleWriter driver, which also shipped with the System 7 Tune-Up. The new driver does not work with System 6 (see The Help Desk, Page 53), and customers also have reported that it does not work with the Apple IIe Card for the Mac LC. Apple customer-support representatives reportedly have told IIe owners to reinstall the older drivers.

Because the updated drivers are installed automatically as part of the Tune-Up package, many users may be unaware that their original drivers have been replaced.

Separately, Apple sources confirmed that a bug in the ROM of the new LaserWriter IIf and IIg prevents users from printing documents containing TrueType fonts twice in a row. Another glitch, this one in the IIg's Ethernet interface, reportedly prevents users from overriding the default zone setting when the printer is on an Ethernet segment running AppleTalk Phase 2. □

# Shiva finalizing details on dedicated ARA server

By Raines Cohen

Cambridge, Mass. — Shiva Corp. is finalizing the details of a dedicated AppleTalk Remote Access server it is expected to ship in April.

The device, called LanRover/L, will allow remote users to dial in to a network without impairing performance on any desktop Mac.

As previously reported (see MacWEEK, Jan. 20), LanRover/L will come with a management application designed to address security concerns that ARA has raised in the minds of many network managers. With the new software, ARA administrators will be able to set passwords for individual users and restrict access to specified network zones.

LanRover/L reportedly will be priced at less than $200. It will include just one serial port, limiting it to one remote user at a time. The company reportedly is developing a multiport version for release later this year.

Unlike Apple's ARA software, LanRover/L can be centrally managed, and because it is a stand-alone device, local users can't inadvertently change settings or disrupt another user's ARA session. It includes the network dial-out functions of Shiva's NetModem devices.

LanRover/L will work with any 2,400-bps or faster modem with an AppleTalk Remote Access modem script.

The list to date covers more than two dozen common modems, including all Apple data modems and the Hayes Ultra 96, Prometheus 2400M, Supra SupraModem 2400, U.S. Robotics Courier 2400e and Telebit T1600.

In other news, Shiva last month said it had sold the sales and manufacturing rights of its EtherPort line of Ethernet cards for the Mac as well as Hublet, a four-port repeater for 10BASE T networks. Eagle Technology of San Jose, Calif., has acquired the products.

Shiva Corp. is at 1 Cambridge Center, Cambridge, Mass. 02142. Phone (617) 252-6300; fax (617) 252-6852. □

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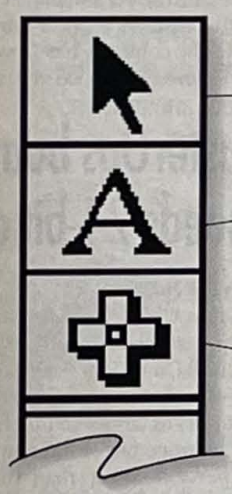
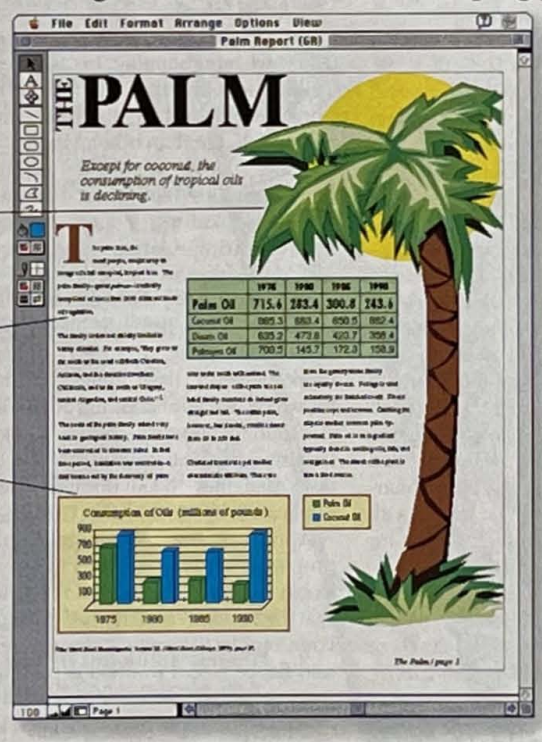


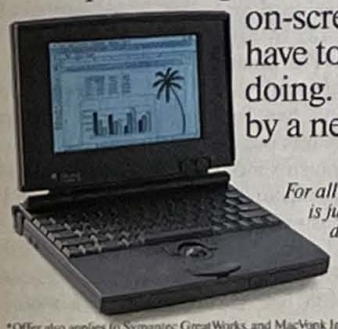
*From within a text document, you can click on the graphics tool and start drawing. Or click on the spreadsheet tool and create a spreadsheet right in the middle of your document. Whatever tool you select, its menu bar appears at the top.*


File Edit Format Arrange Options View
Palm Report (6R)
THE PALM
Except for coconut, the consumption of tropical oils is declining.
Consumption of Oils (millions of pounds)
Palm Oil
Coconut Oil

Though we simply call it ClarisWorks.™

What ClarisWorks software does is combine word processing, graphics, spreadsheet, charting, database, and communications in one convenient package.

But here's the big difference: To add graphics, say, or a spreadsheet or a chart to a word processing document, simply click the on-screen tool. You never have to leave what you're doing. Or get side-tracked by a new window.



*For all its power, ClarisWorks is just 580K. So it never weighs down a PowerBook.*

It's an arrrangement that, unlike anything else, produces more with far fewer moves.

*A truly robust integrated package for fully exercising your options in word processing, graphics, spreadsheets, charting, database, and communications.*

Not only are ClarisWorks tools always within easy reach, they're amazingly easy to grasp and handle. It's like getting our greatest hits—the most popular features of our leading MacWrite,® MacDraw,® FileMaker,® and Resolve™ programs.

ClarisWorks also doesn't hog RAM. Remaining nimble and quick on Classics and LCs and keeping portables, portable.

It's even remarkably simple to share anything you create. With our XTND technology, ClarisWorks can read and write to dozens of popular file formats, like AppleWorks,™ PICT, MacWrite II, and Microsoft Works.

Last, but certainly not least, ClarisWorks is a program you can build on.

The menus and commands in each ClarisWorks environment mirror those in our best-selling specialized programs. Enabling you to move to any one of them without starting over at square one. Which makes ClarisWorks the only integrated program with a true growth path.

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# Alki plug-ins help master Word 5.0

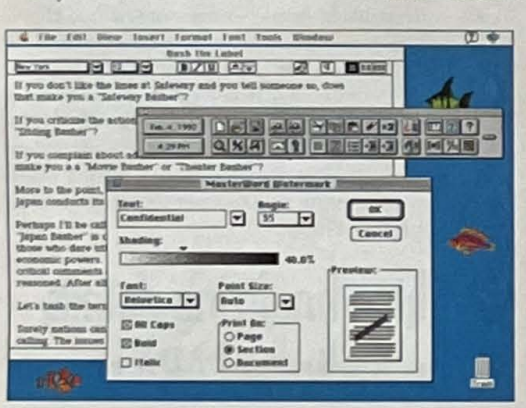
## *Features include custom commands*

By Henry Norr

Seattle — Taking advantage of the open architecture of Microsoft Word 5.0, Alki Software Corp. plans to deliver a new package of plug-in enhancements for the latest version of the market-leading word processor.

Called MasterWord for Word 5.0, the new package is a successor to one introduced last fall for Word 4.0, parts of which Microsoft distributed free to Word owners (see MacWEEK, Oct. 1, 1991).

Key features include:



MasterWord brings a variety of enhancements to 5.0, including a customizable floating icon bar and a simplified way to create watermarks.

▸ **CustomBar.** A customizable floating palette called the CustomBar has room for up to 28 buttons that activate Word commands. Button icons can be selected from a collection of 500 that will ship with the program. The bar can be displayed horizontally or vertically anywhere on screen.

▸ **MasterWord Help.** An extended Help system will offer more detail and better indexing than the one built into Word, according to Alki.

▸ **MasterWord Calc.** In addition to basic arithmetic operations, Alki's calculator module incorporates more than 60 functions drawn from Microsoft Excel into Word. Users can assign eight frequently used functions to buttons on an on-screen keypad.

▸ **MasterWord Seek.** While Word 5.0 has its own fast Find File facility, MasterWord Seek adds further features, such as GREP pattern matching, saving of search filters and plain-English summaries of the criteria specified.

▸ **Gallery of Tables.** Another module simplifies Word's powerful but sometimes confusing table tools. From a single dialog box users can enter the number of rows and columns needed and select among a variety of preconfigured table types; the program then inserts the formatted table.

▸ **Watermarks.** Word itself lets users create PostScript watermarks that print behind the text on a page. But MasterWord eliminates the need for writing PostScript code by providing easy-to-use controls for the gray shade and angle of the watermark.

Several of the Alki add-ons are desk accessories but can be launched from the CustomBar; others drop into Word 5.0's Word Commands folder and show up in the application's own menus.

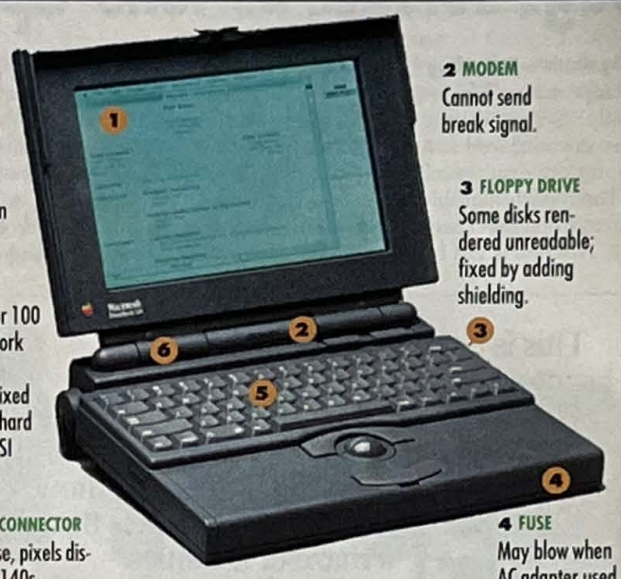
MasterWord for Word 5.0 will retail for $99.95, but a coupon included in the Word 5.0 box lets users get the package, plus a copy of the Fish! screen saver, direct from Alki for $59.95. The company offers a 60-day money-back guarantee.

Two subsets of the full program — one containing the Help files, the other the remaining tools — will also be available separately, direct from Alki, for $39.95 each.

In addition, Alki markets the Microsoft Comprehensive Thesaurus, an add-on that triples the size of Word's thesaurus to 600,000 synonyms, at a retail price of $79.95 and by direct order for $39.95; Microsoft Comprehensive Spelling, a dictionary containing 74,100 medical, legal and business terms, for $79.95 retail and $69.95 direct; and 13 Microsoft Foreign Proofing Tools packages, which include the thesauri and spelling and hyphenation dictionaries that Microsoft packages with international editions of Word, for $99.95 retail or $89.95 direct.

Alki Software Corp. is at 219 First Ave., Suite 410, Seattle, Wash. 98109. Phone (206) 286-2600 or (800) 669-9673; fax (206) 286-2785. □

## Scattered PowerBook glitches


1 SCREEN
170 is vulnerable to cracking when put in briefcase.
2 MODEM
Cannot send break signal.
3 FLOPPY DRIVE
Some disks rendered unreadable; fixed by adding shielding.
4 FUSE
May blow when AC adapter used.
5 SCREEN CONNECTOR
Comes loose, pixels disappear on 140s.
6 SCSI
Docking for 100 does not work with Mac Portable; fixed by adding hard drive to SCSI chain.

# PowerBook glitches anger some; Apple claims situation is normal

By Raines Cohen

San Francisco — While some users are complaining of assorted problems with the Mac PowerBooks, Apple said the notebooks are no less reliable than other Macs.

Users have reported mostly minor glitches (see chart). Some, like loose cables, appear to be manufacturing-related; others are tied to the systems' basic design.

Apple offers a free fix for the machines' floppy drive problems (see MacWEEK, Dec. 10, 1991). Some users, however, have found that the fix, which involves installing additional shielding, doesn't always correct the drives' inability to read 800-Kbyte disks that have been through mass duplication.

Apple said the failures are simply proportional to the volume of PowerBooks shipped. "I think you're seeing that because we've shipped such a large number in such a short time," said Bruce Gee, PowerBook product manager at Apple.

However, Apple has established an internal "hit team" linking its support, engineering and manufacturing departments to analyze types of failure on the systems and correct problems.

Unlike other Macs, the PowerBooks are not dealer- or user-serviceable, but must be returned to Apple for repairs. Some customers object to the inconvenience of going without their notebooks for days.

Some users questioned why Apple doesn't suspend production until the problems are solved. "What kills me is that Apple says they know they have all these problems, but they still ship them," said Sally Rosenthall, manager of microcomputer services for Amgen Inc. in Thousand Oaks, Calif. "That's like a car company saying, 'We know there's a chance of the brakes in your car failing, but don't worry, if they do fail we'll give you a new car.' "

In contrast, other users said they had no complaints. "We've had no specific problems, except minor ones that were immediately addressed by Apple and resolved," said Bill Lesieur, IS consultant at Liberty Mutual Insurance Co. of Portsmouth, N.H. The company has "several hundred" PowerBooks, he said. □

# AlisaMail delivers QuickMail

By Nathalie Welch

Pasadena, Calif. — Alisa Systems Inc.'s AlisaMail will start delivering QuickMail this week.

Version 3.0 of the company's VAX-based mail-integration system adds support for all features in Version 2.5 of CE Software Inc.'s electronic-mail product. Like earlier versions of AlisaMail, it also supports Microsoft Mail 3.0.

Via the Alisa software, users of the two leading Mac mail systems can now exchange messages with each other, as well as with users of Digital Equipment Corp.'s VMS-mail and ALL-IN-1.

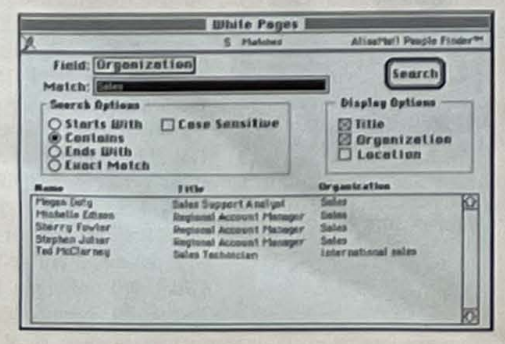
Through gateways supported by DEC's Message Router, Macintosh mail clients also can communicate with colleagues running a variety of other messaging systems, including X.400, PROFS, SMTP (Simple Mail Transfer Protocol), SNMP (Simple Network Management Protocol), DISOSS (Distributed Office Support System), Pathworks PC-mail, PMDF (Pascal Mail Distribution Facility) and Unix-to-Unix Copy Protocol (UUCP).

To help users keep track of their associates' addresses on various systems, a new Mac application called People Finder lets users look up not only E-mail addresses, but also titles; phone numbers; and other information including (optionally) a scanned photograph in a unified directory on the VAX. The directory can be edited from the Mac and is automatically synchronized, in both directions, with each mail system's own directory.

The new version also provides a batch command mode that lets network administrators automate such functions as backup and address changes for groups of employees.

Prices for AlisaMail 3.0 start at $10,000.

Alisa Systems Inc. is at 221 E. Walnut St., Suite 175, Pasadena, Calif. 91101. Phone (818) 792-9474; fax (818) 792-4068. □




AlisaMail 3.0's People Finder lets users search a directory containing pertinent information on all other AlisaMail users.

## For the Record

A Jan. 27 article on Odesta Corp.'s Double Helix/MultiMedia misstated the program's capabilities. The application itself can play QuickTime movies after it copies them to the user's desktop.

A Jan. 13 article on cross-platform graphics formats inadvertently omitted FGM Inc.'s PICTure This from a list of programs that can translate Computer Graphics Metafile (CGM) format into more-common graphics formats.

The Jan. 13 issue mixed up the publishers of two file-translation packages. The correct publisher of Word for Word/Mac is Mastersoft Inc.; Software Bridge/Mac was originally published by Systems Compatibility Corp. and is now published by Argosy Software Inc.

# RasterOps board speeds 24-bit color

By Neil McManus

Santa Clara, Calif. — RasterOps Corp. last week unveiled the PaintBoard 24, a $1,999 NuBus card that delivers accelerated 24-bit color to monitors as large as 21 inches.

The price tag of the new board is 43 percent lower than the $3,499 price of the RasterOps 24XLi, the company's premium accelerated board for large-screen displays.

The new PaintBoard 24 accelerates QuickDraw commands up to 600 percent by using a custom application-specific integrated circuit (ASIC), RasterOps said. The RasterOps 24XLi promises similar levels of acceleration but adds high-end features, such as support for GWorld (graphics world) display memory and hardware pan and zoom.

The PaintBoard 24 supports a variety of displays, ranging from 13 to 21 inches. On a 21-inch monitor, the card provides a resolution of 1,152 by 870 pixels at 77 dpi.

The new RasterOps board can be adjusted to support bit depths of one, two, four, eight or 16 as well as 24 bits per pixel. The board's block-transfer mode lets it transfer data at speeds up to 20 Mbytes per second, RasterOps said.

RasterOps Corp. is at 2500 Walsh Ave., Santa Clara, Calif. 95051. Phone (408) 562-4200; fax (408) 562-4066. □

# WHEN WAS THE LAST TIME A DRAWING PROGRAM MADE YOUR PALMS SWEAT, YOUR PULSE RACE, AND YOUR HEAD SPIN.

## UNLEASH THE AWESOME POWER OF CANVAS 3.

Fasten your seat belt and get ready to take the incredible new Canvas 3.0 for a spin. Its exceptional performance and nimble handling make Canvas 3.0 the hottest precision drawing program on the market. And its formidable list of major enhancements puts it miles ahead of anything else on the road.

**CRUISE INTO THE FUTURE TODAY.** Canvas 3.0 is System 7 Savvy with all of the features Apple® wants to see in System 7 graphics applications. Publish & Subscribe, Balloon Help™, AppleEvents™, and 32-bit memory are fully supported. What's more, Canvas 3.0's breakthrough Open Architecture technology lets you add new tools, effects and file translators with ease, at any time.

**IT WILL LEAVE YOU SPEECHLESS.** Canvas 3.0 offers a wide range of professional text handling features. Fractional leading and kerning. Tab support within text blocks (left, right, center, decimal). Subscript and superscript text. You can even bind text to any curve. Wrap text around or encrust it within irregular shaped objects. Fully justify and slant text margins. Apply character by character font scaling. And convert TrueType™ and PostScript® Type-1 fonts into their Bézier curve outlines.

**NOTHING HANDLES CURVES BETTER.** While other drawing programs make you draw Bézier curves by "connecting the dots", Canvas 3.0's freehand tool lets you create any curve by simply drawing it. And it gives you unparalleled Bézier curve editing power -- from multi-point selection and editing to automatic object conversions, combinations, and blends. You even get centerline auto tracing of scanned images.

**GO WHEREVER YOU WANT.** With enhanced color capabilities, including a built-in process (CMYK) color separator, PANTONE® color support, and automatic gradient fills and blends, Canvas 3.0 is blowing the doors off the competition. But it doesn't top out there. You'll also find technical features like custom hatching, parallel lines and curves, and dashed lines, curves and borders. Automatic dimension lines. And a Smart Mouse™ drawing aide for precise alignments. What's more, there are new built-in file translators for important multi-platform formats like EPSF, TIFF, CGM, DXF™, IGES, and Illustrator®.

**TAKE THE CHECKERED FLAG.** Why drive some sedate sedan when you can own the road with the new Canvas 3.0.? It's incredibly easy to use -- and the list price of just $399 simply adds to the thrill. So, take a deep breath. Buckle up. Double click. And unleash the awesome power of Canvas 3.0. You're in for the ride of your life.

**TIRED OF YOUR OLD SEDATE SEDAN?**

Well, trade-in any used model of MacDraw®, MacDraft®, Illustrator® or Freehand™ for a brand new Canvas 3.0 dream machine for only $149.00. Mail your original program disk with payment to our main address below. Include your MC, VISA or Amex card number, account name and expiration date, or a check in US dollars drawn on a US bank. Add $10.00 shipping. Offer valid in the United States and Canada. Expires on 3/31/92 Please allow four to six weeks for delivery.

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# GCC PLP switches to Type 1 fonts

*Driver lets users share printers*

**By Matthew Rothenberg**

Waltham, Mass. — GCC Technologies Inc. has raised its PLP II series of 300-dpi printers to a new level with a software upgrade that features Adobe Type 1 fonts, background printing and support for System 7 file sharing.

PLP 4.0 is available now as a $69 upgrade to current owners of the $999, 4-page-per-minute PLP II and the $1,499, 8-ppm PLP IIS. GCC is shipping the updated software with new models of both printers.

The new version includes Type 1 as the standard font format, replacing GCC's proprietary Bitstream outline fonts, which could be used only with the PLP II printers. PLP II owners now will receive a set of six Type 1 fonts, and PLP IIS owners will receive an additional eight Type 1 typefaces. Besides the Adobe fonts, GCC is bundling Adobe Type Manager with the new software.

The new driver lets up to three users share a PLP II or IIS. One Mac running System 7 acts as host to the printer; other users can print to it by directing their print jobs to a designated shared folder or alias.

GCC also announced that it has discontinued its $239 Publishers' Choice and Headliners font packages and is offering Type 1 replacements to current owners for $49 each. The company now markets eight Adobe font packages at prices ranging from $69 to $139.

To take advantage of the upgrade's background-printing feature, the PLP II now ships with 1 Mbyte of RAM, already standard on the PLP IIS. Current owners of the PLP II can get the memory upgrade as part of a $99 bundle with the upgraded printer software and Type 1 fonts.

In addition to the printer updates, GCC announced a $100 rebate on all GCC laser printers purchased before March 27; the company also has added a lower paper-tray assembly to its $2,899 BLP IIS PostScript printer without changing its $2,899 price.

GCC Technologies Inc. is at 580 Winter St., Waltham, Mass. 02154. Phone (617) 890-0880; fax (617) 890-0822. □

# Newer slashes fx accelerator price; Fast SCSI boosts Dart throughput

**By Henry Norr**

Wichita, Kan. — Newer Technology last week began shipping a Fast SCSI silicon disk drive and a redesigned version of its 50-MHz Mac IIfx accelerator that lists for less than half the price of the previous model.

**The SCSI-II Dart, Newer's newest silicon disk drive, pushes throughput to record levels.**

- **The fx/Overdrive-II** retails for $850, compared with the $1,995 price of the original fx/Overdrive (see MacWEEK, Oct. 22, 1991). Newer attributed the reduction to a new design that runs the IIfx's original 40-MHz 68030 and math coprocessor at the higher clock speed rather than replacing them with new, higher-speed parts. The dealer-installed upgrade includes heat sinks for the CPU and math chip.
- **The SCSI-II Dart,** a new version of Newer's external silicon disk storage device, supports data transfer rates of up to 12 Mbytes per second when used with Fast SCSI adapters. (No Macs come with Fast SCSI support, but third-party vendors such as ATTO Technology Inc., Storage Dimensions and FWB Inc. have announced adapters that will.)

Tested on a Mac IIfx with FWB's HD BenchTest benchmarking program, the SCSI-II Dart received an overall rating of 97.2; the fastest magnetic drives score less than 5. An Adobe Photoshop rotation that normally takes more than four minutes takes only five seconds when Photoshop's scratch files are written to the Dart, Newer said.

A SCSI-II Dart with 4 Mbytes of RAM is priced at $4,710. The tower-style cabinet has room for up to 512 Mbytes of memory, in the form of 1-, 4- or 16-Mbyte SIMMs (single in-line memory modules), with battery backup built in.

Newer Technology is at 7803 E. Osie, Suite 105, Wichita, Kan. 67207. Phone (316) 685-4904 or (800) 678-3726; fax (316) 685-9368. □

# GDT package putting Mac users in the driver's seat

**By Matthew Rothenberg**

Burnaby, British Columbia — GDT Softworks Inc. is gearing up a cable-and-driver package that will put Mac users behind the wheel of more than 850 third-party printers.

Slated to ship next month for $149, PowerPrint bundles a high-speed serial-to-parallel converter cable with new QuickDraw drivers for Hewlett-Packard Co.'s LaserJet IIsi and IIIP printers, plus the slew of drivers included in two older GDT driver packages, JetLink Express and PrintLink Collection.

Supported printers include HP's DeskJet, LaserJet and ThinkJet lines; Canon U.S.A. Inc.'s Bubble Jets and LaserBeams; Epson America Inc.'s FX and LQ models; NEC Technologies Inc.'s Pinwriters; and Toshiba America Information Systems Inc.'s P series.

The drivers support custom paper sizes; two-sided, front-to-back or back-to-front printing; inversion and flipping of page orientation; cover pages; and reduction and enlargement from 20 percent to 400 percent in 1 percent increments.

PowerPrint users also can access a printer's internal fonts, select among paper trays, take advantage of color-printing options, set printer defaults and print labels three-up without rollback to avoid jamming, GDT said. In addition, the package features gray-scale pattern matching at the printer's highest resolution. The drivers support serial and parallel NuBus cards and the Macintosh Communications Toolbox, so users can add extra ports or other interfaces.

The 57,600-bps converter cable that GDT will bundle with PowerPrint lets Mac users connect to the parallel ports of standard DOS printers. Because it requires no external power adapter, the cable will simplify the task of connecting PowerBooks to portable non-Mac printers, the company said.

Owners of the JetLink Express or PrintLink Collection will be able to upgrade, but pricing has not yet been set.

GDT Softworks Inc. is at 4664 Lougheed Highway, Suite 188, Burnaby, British Columbia V5C 6B7, Canada. Phone (604) 291-9121 or (800) 663-6222; fax (604) 291-9689. GDT's U.S. address is P.O. Box 1865, Point Roberts, Wash. 98281. □

# Chasco cuts cost of lab control

**By Raines Cohen**

Manomet, Mass. — Lab control systems are often too pricey for sites on a tight budget, and high-end solutions, such as National Instrument Corp.'s $1,995 LabVIEW, include many functions not needed in simple data-acquisition applications.

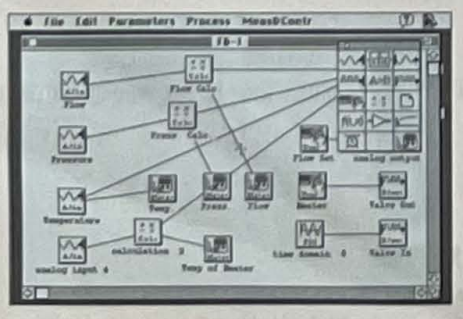
Chasco Control Industries Inc. offered an easier way into data acquisition last month when it shipped Trellis, an object-oriented development system for laboratory and industrial control.

The $198 package is designed for measurement and control of process variables such as temperature, current, voltage and resistance.

Users simply draw lines using a palette of functional relationships to connect inputs and outputs on icons representing devices, calculations and functions. The program lets users simulate and test control systems and then build stand-alone applications with a custom user interface.

Chasco also sells MicroMac 1050, a $995 analog-to-digital converter, to sample and control lab devices. The company said it is developing interfaces to General Purpose Interface Bus (GPIB) devices as well.

Chasco Control Industries Inc. is at P.O. Box 896, Manomet, Mass. 02345. Phone (508) 224-2260; fax (202) 333-2052. □



**Trellis users connect icons representing functions, processes and devices to create lab-system models.**

# MacApp goes MADA

Everett, Wash. — The MacApp Developers Association has trimmed down its name and expanded its charter to include object-oriented programming technology on a variety of platforms, including Microsoft Windows.

The board of directors last week announced that it changed the group's name to MADA, approved a new charter and adopted new bylaws. Under the new charter, MADA will encompass such operating systems as Windows, Apple's Common LISP Object System and Taligent's implementation of Pink.

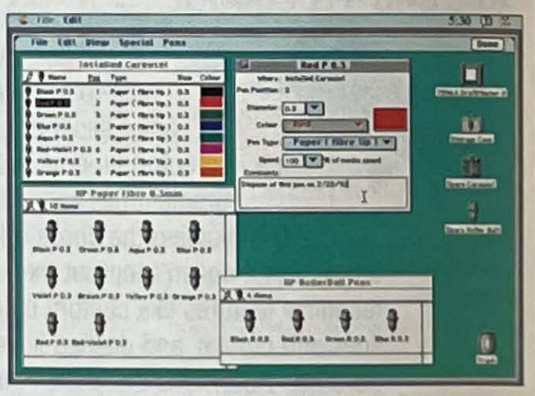
MADA will hold its third annual conference in Orlando, Fla., Feb. 24-28.

MADA is at 4327 Rucker Ave., Everett, Wash. 98203. Phone (206) 252-6946; fax (206) 259-2154. □

# Microspot plots new course

**By Rochelle Garner**

Cupertino, Calif. — Microspot USA Inc. last month announced an easier-to-manage version of its MacPlot Chooser-level plotter drivers.



**Version 4.0 of Microspot's MacPlot plotter drivers now lets users define pen settings directly in the driver software.**

Microspot's MacPlot Pen Plotter Standard driver, which supports A- and B-size plotters, and MacPlot Pen Plotter Professional, which produces A- through D-size plots and supports plot to disk, have been upgraded to Version 4.0.

Both the $199 Standard and $399 Professional now include:

- **Image transformations.** Images can be flipped vertically or horizontally and rotated 180 degrees.
- **Internal parameter settings.** Users now can set pen and plotter parameters from within the drivers rather than from separate utilities.
- **Outline-style fonts.** Both drivers now can vectorize outline-style fonts for smoother and faster output.

Version 4.0 also adds background plotting, new status dialog boxes and context-sensitive and balloon help.

The Professional version is available now; the Standard version is due this month. Users of versions 2.0 to 3.6 of either driver can upgrade for $90; upgrading from Version 3.7 or higher costs $50.

Microspot also offers its new Raster HP-GL/2, a $995 driver for Hewlett-Packard Co.'s 7600 series of electrostatic plotters and HP's DesignJet inkjet plotter. The Chooser-level driver supports the HP-GL/2 language's built-in hidden-line removal and compressed data transmission for faster plotting.

Microspot USA Inc. is at 20421 Stevens Creek Blvd., Suite 240, Cupertino, Calif. 95014. Phone (408) 253-2000 or (800) 622-7568; fax (408) 253-2055. □

# Cut your Ethernet/LocalTalk routing costs by up to 73%.

## *The Ether•Route Family of 3-Port Routers. Starting at $1495.*

**W**hen McDermott Incorporated network managers needed to connect seven LocalTalk networks to their New Orleans Ethernet backbone, they evaluated a number of routers.

Steve Russo, telecom network analyst at McDermott, sums up the results: *"We evaluated all of the major routers on the market and chose Compatible Systems' Ether•Route."*

He goes on to explain one of the reasons Ether•Route was selected: *"It has two LocalTalk ports, so we could purchase fewer routers than we had originally planned."*

**Y**ou'll find that Ether•Route can save you money and increase the reliability of your network.

Richard Smith, research director at Simon Fraser University in Vancouver, selected Ether•Route because of *"the low price, and the fact that Ether•Route supports two LocalTalk ports."*

And, Richard later realized additional benefits: *"Ether•Route has proven to be the most reliable router on our campus network, and we have routers from all three major vendors."*

| Ether•Route $1495 |
|---|
| • Two fully independent LocalTalk ports |
| • Thin/Thick or 10BaseT/Thick Ethernet port |
| • Direct Memory Access on all network ports |
| • Enhanced Network Security™ protection for connected printers & devices |
| • AppleTalk Phase 1 & Phase 2 support |
| • Seed, non-seed & auto-seed operation |
| • Management & software updates from any Macintosh on your AppleTalk internet |
| • Extensive management diagnostic information |
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| • 128K RAM for network buffering |
| • Upgradeable to Ether•Route/TCP & Ether•Route/TCP-640 |
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| • TCP/IP, MacTCP & IPTalk support |
| • SNMP & atalkad support |
| • AppleTalk tunneling on IP backbone |
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| • 128K Flash EEPROM for configuration & software |
| • 256K RAM for network buffering |
| • Upgradeable to Ether•Route/TCP-640 |
| **Ether•Route/TCP-640 $2195** |
| *All of Ether•Route/TCP's features, plus:* |
| • 512K RAM for network buffering |

**A**fter just a little over a year, the list of Ether•Route users reads like a who's who of Macintosh networking: *U.S. West, Teledyne, DOD, Cornell University, Ameritech, Orange County, Rockwell International, NCAA, USGS, Kaiser Permanente, University of Texas, Northwestern University, Martin Marietta, DOC, Sony Japan, Fujitsu America, INS, University of Waterloo, Signetics, VA, Seagate, etc.*

Wondering how Ether•Route came so far so fast? It's simple. Ether•Route gives you more LocalTalk ports, more manageability and more security. Ether•Route simply gives you more for your money.

*For free information on how Ether•Route can significantly cut your networking costs, call*

**1 800-356-0283.**

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**Compatible Systems**

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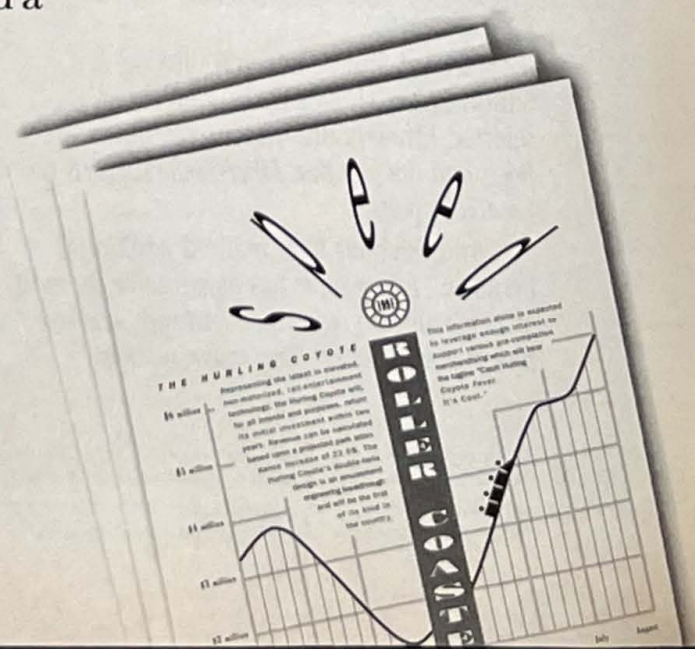
# Some things are clearly built for speed.

Hang on! At 17 pages per minute, the new HP LaserJet IIISi printer for the Macintosh runs full tilt. With a high-speed engine, more standard memory (5MB, expandable up to 17MB), and a RISC-based formatter, this printer can have your work finished faster than you can shout "the HP LaserJet IIISi for the Macintosh."

Designed specifically for high-volume printing, this machine comes with two 500-sheet input trays, a 500-sheet output capacity, and a 50,000-page-per-month duty cycle. In addition to quick turnarounds, you gain paper-handling versatility with job offset and a tray-full sensor. And for even greater flexibility, you have the option of adding two-sided printing and an envelope feeder.

What's more, our printer has true Adobe® PostScript® built in. Which means this machine whips through PostScript printing, while others may keep you waiting. So whether



# Others aren't so obvious. Introducing the LaserJet IIISi for the Macintosh.

Works with LocalTalk and EtherTalk.

your workgroups are networked by LocalTalk, EtherTalk, or sharing files between both, simply plug in and they're ready to roll.

Perhaps the best news of all is the price. The HP LaserJet IIISi for the Macintosh is only $6,995.* So if you're interested in affordable, express printing with the service and reliability you've come to expect from Hewlett-Packard, call **1-800-752-0900, Ext. 2607** for the name of your nearest authorized HP dealer.† And discover the printer that will take your breath away.

**LaserJet Printers**

HEWLETT PACKARD

*Suggested U.S. list price. Adobe and PostScript are registered trademarks of Adobe Systems, Inc. in the United States and other countries. †In Canada call **1-800-387-3867, Ext. 2607** © 1991 Hewlett-Packard Company PE12122

# Teknosys offers even more Help!

## *Knowledge base now supports new Macs*

By April Streeter

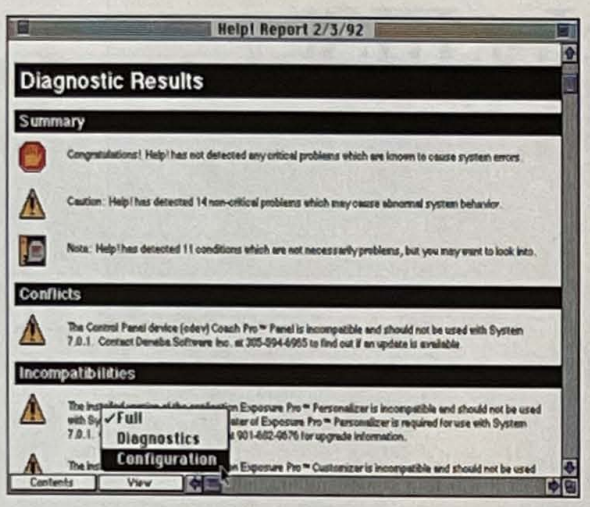
Tampa, Fla. — Teknosys Inc. last month shipped the first of its quarterly updates to Help!, a utility to help users configure their Macs to prevent crashes, freezes, system errors and printing problems.

Like the original Help!, Version 1.0.1, which costs $149, spells out problems and suggests solutions (see MacWEEK, Sept. 17, 1991).

TechWorks Inc. of Austin, Texas, will address the more troublesome network problems in another Teknosys-designed product, GraceLAN Network Help!, due around March for $495 for a 50-user pack (see MacWEEK, Jan. 6).

The new single-user version now supports:

▸ **New Macs.** Help!'s knowledge base has been expanded with 750 rules that include support for Macintosh Quadras, PowerBooks and Classic II machines.


Help! Report 2/3/92
Diagnostic Results
Summary
Congratulations! Help! has not detected any critical problems which are known to cause system errors.
Caution: Help! has detected 14 non-critical problems which may cause abnormal system behavior.
Note: Help! has detected 11 conditions which are not necessarily problems, but you may want to look into.
Conflicts
The Control Panel device (odev) Coach Pro™ Panel is incompatible and should not be used with System 7.0.1. Contact Deneba Software Inc. at 305-594-6965 to find out if an update is available.
Incompatibilities
Full
Diagnostics
Configuration
Contents
View

**Teknosys' Help! scans users' hard disks, creating a report listing likely problems. The updated knowledge base contains more compatibility rules than before.**

▸ **Additional diagnostics.** A new diagnostic section called Current Versions shows the version number of all applications, system extensions and control panels on a user's system, alongside a list of the most-recent versions available.

▸ **Simulated configuration.** The enhanced Simulation feature lets users hypothesize effects of, for example, additional memory, different system settings, system software upgrades and microprocessor add-ons such as a math coprocessor.

Version 1.0.1 is free to current users. Annual subscriptions of at least four updates cost $75. Users without a subscription receive one update free. A 10-user pack is $795.

Teknosys Inc. is at 3923 Coconut Palm Drive, Suite 111, Tampa, Fla. 33619. Phone (813) 620-3494; fax (813) 620-4039. □

# Telecom module for Market Master will link field with home office

By Dartanyan L. Brown

Nevada City, Calif. — Breakthrough Productions last month announced Version 3.5 of its Market Master sales-automation software, an update designed to facilitate greater communications between users in the field and the home office.

Due by next month, Market Master 3.5 will include telecom software and offer improved links between its database and major word processors. The program, based on Odesta Corp.'s Double Helix, remains priced at $395 (see MacWEEK, May 14, 1991).

▸ **Communications software.** Version 3.5 will include Market Master Remote, a separate telecom package that will be able to dial the home office via AppleTalk remote, the company said.

▸ **Improved text export.** Form-letter templates can be exported to Microsoft Word, Paragon Concepts Inc.'s Nisus and other word processors via "Apple event-type links," the company said.

Single-user upgrades from Version 3.0 will be $45. Upgrades from earlier versions will range from $145 to $195.

Versions licensed for use by one operator at a time but capable of managing the activities of four, 10 and 20 sales representatives are $595, $895 and $1,295, respectively. An unlimited-user version costs $1,995.

Breakthrough Productions is at 210 Park Ave., Nevada City, Calif. 95959. Phone (916) 265-0911; fax (916) 265-8036. □

# Compuneering will add QuickTime, import/export to terrain-mapping tool

By Rochelle Garner

Thornhill, Ontario — Compuneering Inc. plans to ship an update to its LANDview terrain-mapping software for landscape architects and civil engineers this month.

LANDview uses the triangulated irregular network (TIN) method to map data points taken from the field or digitized from other applications.

Features added to the new version, 1.1, include:

▸ **Cut and fill.** The program now can generate several TINs showing actual and projected terrain elevations, then calculate the cut and fill volume of the earthwork.

▸ **Data editing.** Single and multiple elevation points can be changed by typing in values.

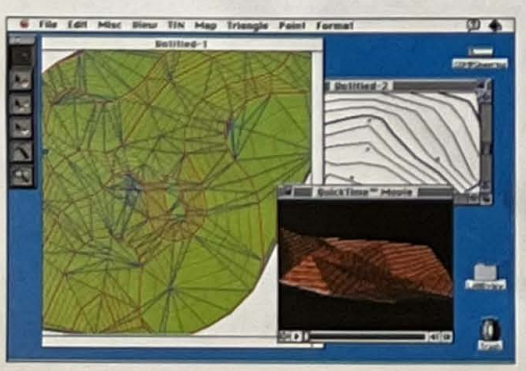
▸ **Breaklines.** Users now can tell the program to make permanent certain contour lines.

▸ **Import/export.** Although LANDview is a 2-D application, it can export TINs as 3-D data in DXF (Drawing Interchange Format) for use in rendering or CAD applications. It also will export files in Architrion format as well as read files saved in DXF. Imported DXF files can be filtered by deflection angle and distance parameters to reduce size.

▸ **QuickTime.** Users can show terrain fly-bys by playing QuickTime movies imported from other applications.

▸ **Layers.** The program now can store data in different layers, which can be edited, hidden and used to generate overlying TINs.

LANDview has a complicated pricing structure that begins with the $195 basic version, which handles up to 30 data points. Additional features cost more. For example, the ability to calculate earthwork volumes and generate multiple TINs costs an extra $300. Support for DXF and Architrion formats adds another $300. The ability to generate 300 points to an unlimited number will cost an additional $100 to $800. Users upgrading should subtract $50 from the total.



**LANDview 1.1 can generate maps containing both triangulated irregular networks and contours, as seen in the largest screen above.**

Compuneering Inc. is at 113 McCabe Crescent, Thornhill, Ontario L4J 2S6, Canada. Phone (416) 738-4601; fax (416) 738-5207. □

# Zedcor updates 7 Desk modules

By Henry Norr

Tucson, Ariz. — Zedcor Inc. last month refinished its Desk.

Desk Version 3.07 makes the company's $399.95 suite of Apple-menu productivity tools compatible with System 7. Like previous releases, it includes seven modules: DeskPaint and DeskDraw, a pair of well-known graphics tools; DeskWrite, a word processor; DeskCalc, a spreadsheet; DeskCom, a telecommunications program; DeskFile, a database; and DeskSecretary, a reminder program.

But while in previous releases the modules were all desk accessories, they now come in both DA and application form. According to Zedcor, the application versions are not simply converted DAs; they have full menu bars and allow users to set their memory allocations — capabilities lacking in DAs simply dragged out of their suitcases under System 7.

Upgrades are $24.95, or free to owners who bought the package after Sept. 1, 1991. Customers who upgrade within 30 days will receive a two-disk set of 500 clip-art images in TIFF format.

Zedcor Inc. is at 4500 E. Speedway, Suite 22, Tucson, Ariz. 85712. Phone (602) 881-8101 or (800) 482-4567; fax (602) 881-1841. □

# Of mice and mitts: Companies make users more comfortable

By April Streeter

Mountain View, Calif. — Clicking the mouse all day can tire the wrist. Two companies now provide different approaches to make mousing more comfortable, as well as more colorful.

**ErgoPads, spongy strips that stick to the top and sides of the mouse, are designed to relieve mouse-clicking stress.**

▸ **Chappell Computer Systems** provides ErgoPads, spongy strips that stick to the top and sides of the mouse. The $9.95 pads, designed to relieve mouse-clicking stress, come in five colors along with basic black.

▸ **Mouse Mitt International** clothes users' wrists rather than the mouse with its Mouse Mitt, a Lycra wrist covering that resembles a cutback bicyclist's glove. Padded from the palm down to the wrist, the $10.95 Mouse Mitt also is available for lefties. It comes in multiple colors and patterns and can be customized with company logos.

Chappell Computer Systems is at 15 Starr Way, Mountain View, Calif. 94040. Phone (415) 969-7546.

Mouse Mitt International is at 75 Green Valley Road, Scotts Valley, Calif. 95066. Phone (408) 335-9599; fax (408) 335-9598. □

# Personal Training for Lotus 1-2-3 users

By April Streeter

San Jose, Calif. — To guide the uninitiated into the previously unexplored world of Lotus 1-2-3 for the Macintosh, Personal Training Systems Inc. this month announced a self-paced disk and audiocassette training package.

The company will offer three levels of training modules for the newly released Mac version of Lotus Development Corp.'s spreadsheet (see MacWEEK, Dec. 17, 1991).

Available now, the basic module shows such skills as entering labels and formulas, creating formulas and functions, and sharing files across platforms. The intermediate-level course examines, for example, using the numbers formats, creating "if" formulas, and sorting. It is due later this month. A Business Graphs module, due this spring, will show such techniques as creating and embellishing graphs as well as graphing multiple but non-adjacent columns. Each module is $99.95.

Personal Training Systems Inc. is at 828 S. Bascom Ave., Suite 100, San Jose, Calif. 95128. Phone (408) 286-1635 or (800) 832-2499; fax (408) 977-1166. □

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# Tracker monitors field sales info from home office

By Rochelle Garner

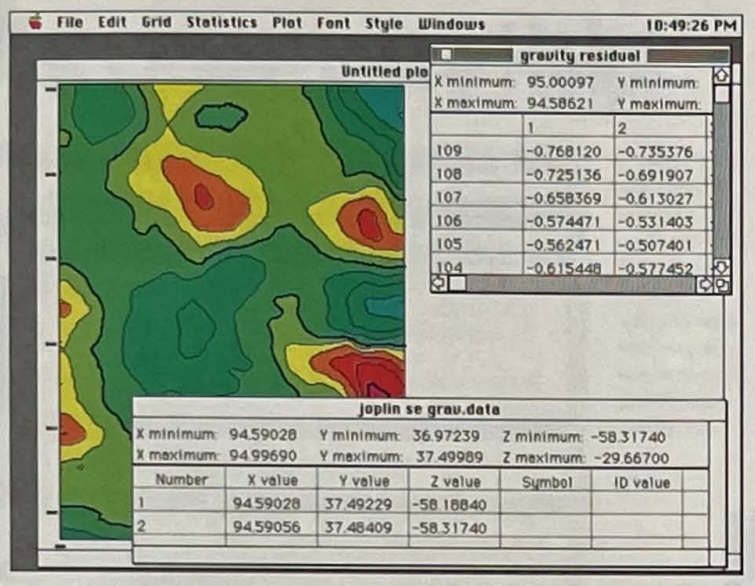
Tahoe City, Calif. — Flexware Corp. this month shipped The Tracker, an application that helps users forecast sales and manage customer contacts.

Priced at $795, The Tracker lets sales staff in the field manage customer information by such factors as company, ZIP code and areas of interest. Entries can be traced by the system's automatic date- and time-stamping function; a follow-up button creates an automatic reminder associated with each entry.

In the office, managers can use the software to help forecast when a sale will close. After users describe the current phase of their sales calls, such as "first call," "approved by management," or purchase order under way, the system will examine the sales representative's average time to close a deal, look at the sales potential in dollars, and then forecast the quarter based on all those factors.

The Tracker can work with Flexshare, $695 network software for remote access, and with Flexware's Accounts Receivable, Order Processing and Inventory applications.

Flexware Corp. is at P.O. Box 68, Tahoe City, Calif. 96145. Phone (916) 581-6999 or (800) 527-6587; fax (916) 581-6993. □




Surface III can model any data distributed over a two-dimensional area, such as this model of gravity potentials. Applications range from locating natural resources to determining snow thickness.

# Interactive Concepts maps new features into Surface III

*Geographical data can be incorporated*

By Raines Cohen

Lawrence, Kan. — Interactive Concepts Inc. last month shipped Version 1.3 of Surface III, its gridding, contouring and mapping application.

Still priced at $249, Surface III was originally developed to model geostatistics and geophysical data. It also can be used to model data randomly distributed over a 2-D area, such as snow thickness, chemical concentrations, gravity fields and heart wall thicknesses, the company said.

The program can create contour maps, 3-D perspective block diagrams (transects), data histograms and data-point postings. It features gridding algorithms, weighting functions and search procedures that let users adjust the modeling process for each data set. It also includes a polynomial trend surface function and grid-to-grid mathematics.

Version 1.3 of the Mac program now includes a Universal Transverse Mercator translation from longitude-latitude, allowing users to incorporate geographical data from mapping applications. It also features new options for contour hatching and contour label size.

"We're using it to develop salinity regimes for estuaries," said Thomas F. La Pointe, operations analyst for the Strategic Environmental Assessments division of the National Oceanic and Atmospheric Administration in Rockville, Md. "We'll be incorporating it into several of our own mapping applications, to develop a more robust GIS (Geographic Information Systems) capability than any individual application has."

An enhanced release, called Surface III+ and priced at $399, is due this week. It additionally supports gridding with faults, making it more useful for oil, gas, mining and other geoscience applications.

Users who purchased Surface III within the past six months can upgrade to Version 1.3 for free; others pay $35. Upgrading to the Plus version costs $100. The company offers a 30-day money-back guarantee.

Interactive Concepts Inc. is at 600 Lawrence Ave., Suite 2D, Lawrence, Kan. 66049. Phone (913) 749-4844; fax (913) 841-7268. □

# Contact! lets users control, share addresses, names over network

By Dartanyan L. Brown

Charleston, W.Va. — Psybron Systems Inc. last week entered the already-crowded field of companies offering desk accessories and applications that help users keep track of names, addresses and related notes.

Contact!, a DA available now for $98, lets workgroups share data files across an AppleTalk network.

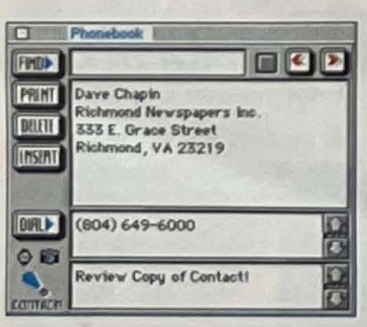
Other features include:

- **Database.** Contact! stores multiple phone numbers. A scrollable notes field holds an unlimited amount of text per record. The program exports and imports tab-delimited text files.
- **Voice annotation.** Contact! supports System 7's Sound Manager, allowing users to add voice notes to individual records. System 6 users can use MacroMind-Paracomp Inc.'s MacRecorder to input sound.
- **Printing.** Contact! can print envelopes, sheet labels or roll labels of any size. Users can place graphics, return addresses and comments on envelopes.

The DA also provides dialing via PowerBook and other modems.

Contact! costs $265 for a three-user pack, $500 for six users, $950 for a 12-user pack, $3,400 for a 50-user license and $5,900 for 100 users.

Psybron Systems Inc. is at 1116 Smith St., Suite 206, Charleston, W.Va. 25301-1305. Phone (304) 340-4260 or (800) 866-4260; fax (304) 340-4275. □




Psybron Systems' new Contact! DA lets users organize their name and address files as well as annotate those files with voice and text notes.

## News BRIEFS

### Seagull picks up DriveWare for Jasmine drives

Cupertino, Calif. — Seagull Software is picking up at least some of the debris left by the demise of Jasmine Technologies Inc.

The new company, staffed in part by former Jasmine executives, is now marketing DriveWare 2.0, the System 7-compatible version of the now-defunct Jasmine's disk-formatting and driver software.

In addition to compatibility with the new operating system and its virtual-memory capability, DriveWare 2.0 provides partitioning, password protection, support for A/UX 2.0 and a new error-correction technique.

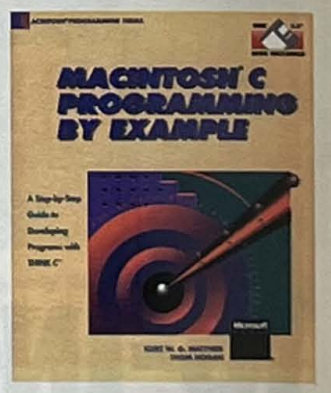
System 7 will not work on drives formatted with DriveWare releases prior to Version 1.79; other pre-2.0 versions of DriveWare work with the new OS but not with virtual memory, according to a Seagull spokesman.

DriveWare 2.0 is priced at $39.95, including shipping and handling.

Seagull Software, a division of MacFeatures Inc., is at 21317 Glenplace, Suite 2, Cupertino, Calif. 95014. Phone (415) 361-0928; fax (408) 446-4992.

### Microsoft Press book teaches ABCs of C programming

Redmond, Wash. — Lessons often are more effective when they have accompanying exercises that students can follow. Users wanting to learn C now can try that approach with "Macintosh C Programming by Example," a new book from Microsoft Press.




Issued last month, the $34.95 book by Kurt W.G. Matthies and Thom Hogan discusses Symantec Corp.'s THINK C environment and C language, and gives an overview of Mac memory management and application fundamentals. A disk included with the book contains a Generic App Shell for generating a variety of applications.

Other on-disk files include samples of C source, header and resource files for layered software design, event and window handling, and use of the Macintosh Toolbox.

Microsoft Press is at 1 Microsoft Way, Redmond, Wash. 98052-6399. Phone (206) 882-8080.

### DesignCAD slashes 2D/3D price almost 60 percent

Pryor, Okla. — Contrary to expectation, high-end CAD does not have to be expensive. Proving that point, DesignCAD Inc. last month took $400 off the price of its 2-D and 3-D CAD software.

Now $299, DesignCAD 2D/3D supports surface modeling, solid modeling and rendering capabilities (see MacWEEK, June 11, 1991).

Along with the new price, the company announced a new version, 3.0.1, which features an enhanced Importer/Xporter utility. The software, included with the CAD application, now can export complex structures in RIB (RenderMan Interface Bytestream) format as separate surfaces.

Upgrades are $50.

DesignCAD Inc. is at 1 American Way, Pryor, Okla. 74361. Phone (918) 825-4848; fax (918) 825-6359.

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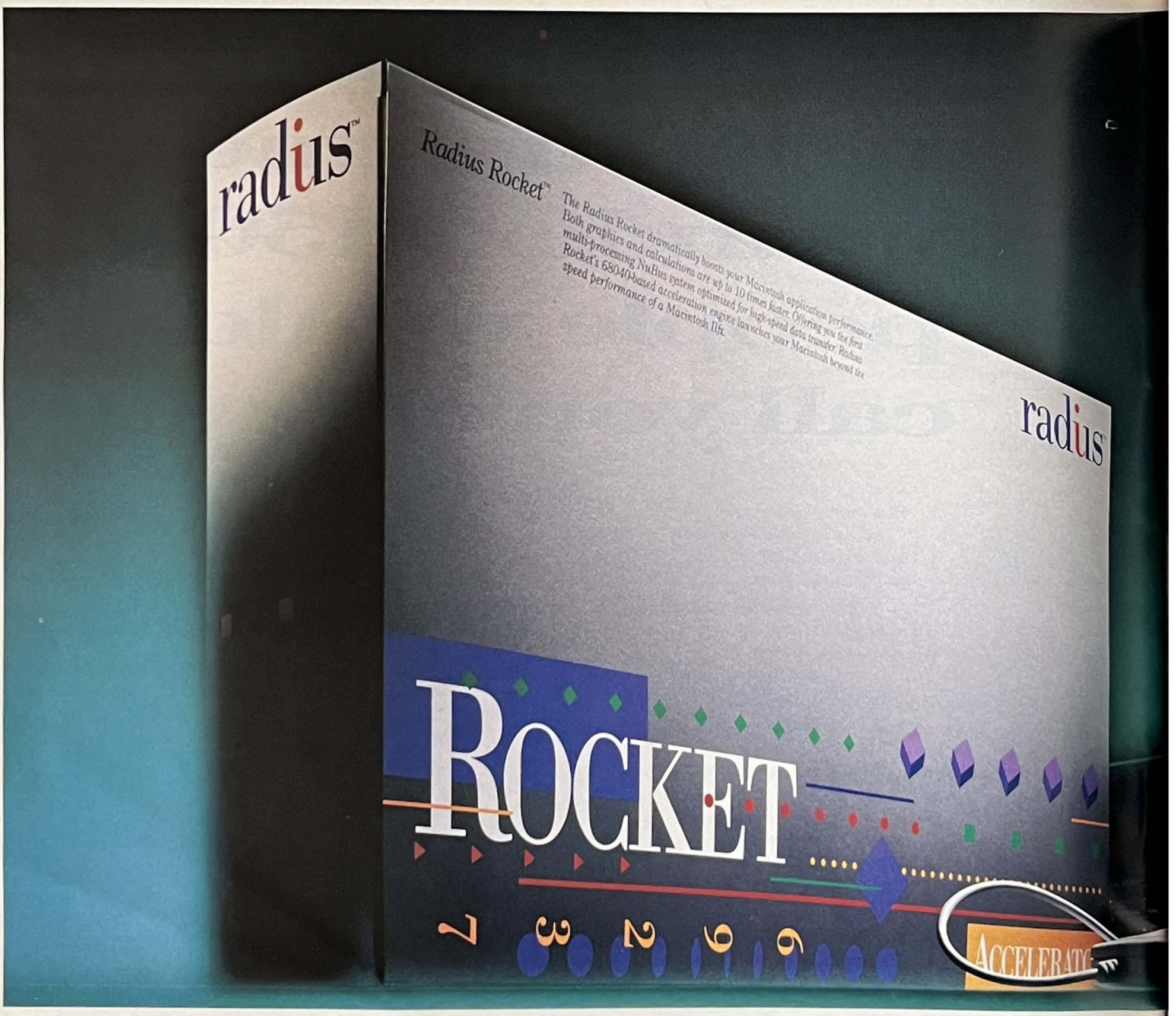
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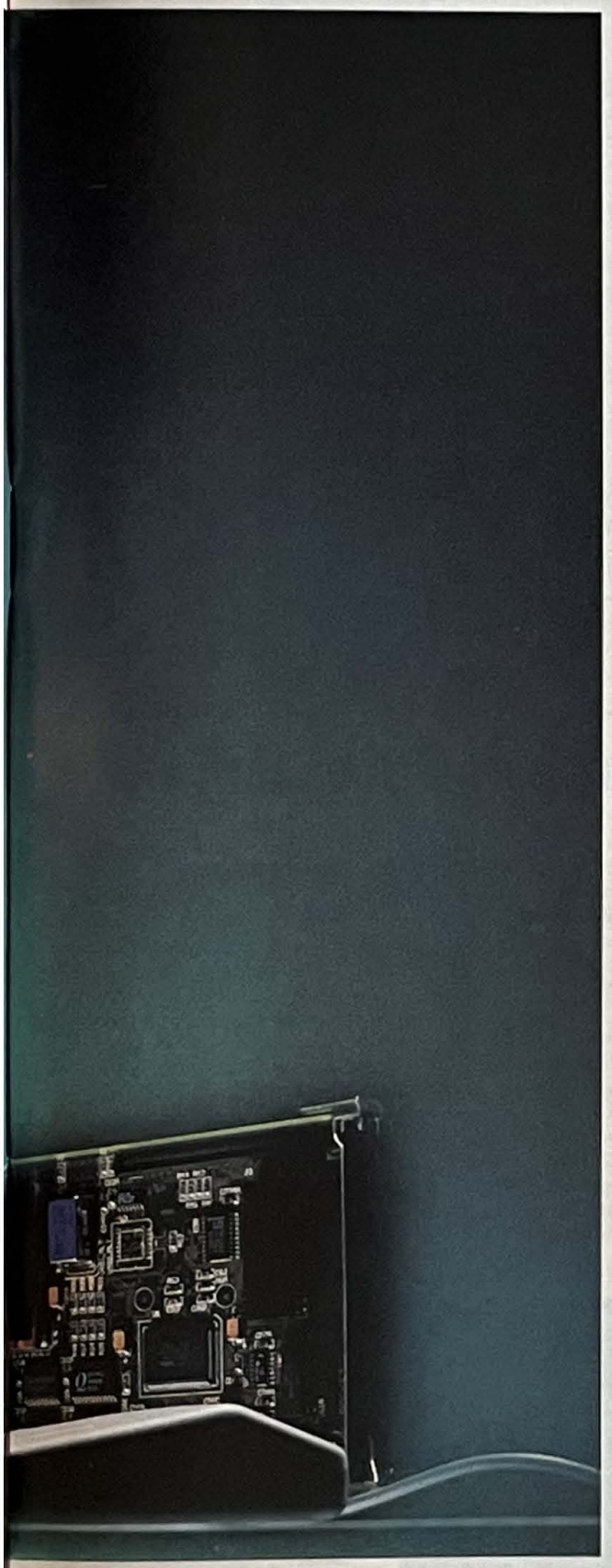
board will instantly turn your Mac II* into one bad apple.



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ROCKET 25i

The Rocket easily plugs into your NuBus slot and protects your current investment by utilizing your Mac, not replacing it. Our unique architecture supports up to 128 MB of RAM and enables your existing motherboard to handle I/O commands while the Rocket's 040 races up to 6 times faster than your Mac II.

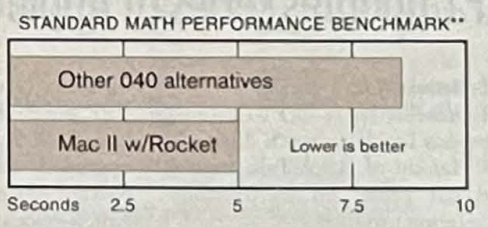
Recent tests conducted by *MacWEEK* showed the Rocket beating the pants off other 040 based alternatives in graphics performance. Speed of response. Requests for processing time. And integer-math tests (see performance chart below).

And when you consider the Rocket's compatibility features like the ability to simulate the 030's cache mode or the ability to run either System 6 or System 7, you have to really wonder why it's practical to choose any alternative to the Rocket 25i.

If you're not sure your system is ready for the power and the speed of a Rocket just give us a call and we'll send you a free Rocket Lift-Off disk to slip into your Mac. The disk will detail compatibility with your computer's system software, motherboard, peripherals and network.

So, what are you waiting for?

So, if you're interested in an incredibly easy upgrade with the $1499 Rocket 25i. Or the $1999 Rocket with the integrated math coprocessor, simply call us at 1-800-227-2795. Or call 1-800-966-7360 and we'll fax you everything you need to know about either of these accelerator boards.




If you agree this is a fantastic offer, we'd love to reserve you a brand new Rocket.

If not, we'd love to reserve you a suite at Happy Acres.

white on 12- or 13-inch monitors, with AppleTalk off, minimum disk cache and extensions turned off. MacWeek 10/22-9)

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## Voilà! Macs can manage Pathworks

*Path•Manager puts control on desktop*

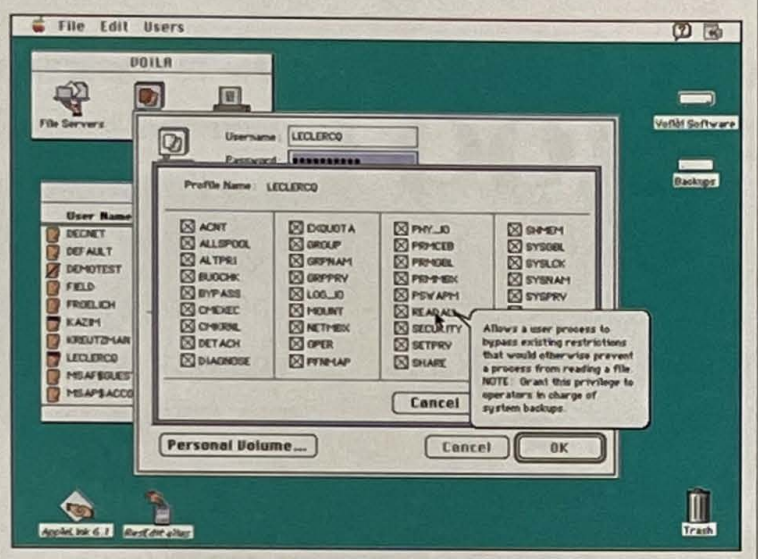
**By Mitch Ratcliffe**

San Francisco — Macs have tapped into Digital Equipment Corp.'s VAX computers through the Apple/DEC-developed Pathworks network software since 1989, but until now they have been unable to manage Pathworks installations.

Path•Manager 1.0, available now from Voilà! Software, is the first package that lets Mac clients manage servers and print queues on a Pathworks network. It provides a graphical front end to the Pathworks 1.0 or 1.1 environments, with extensive balloon help explanations of cryptic VAX privileges. Pricing for the Path•Manager Mac application and a VAX responder application begins at $995 for MicroVAX 2000 or 3100 servers.

To run Path•Manager, users will need to have the $495 Pathworks for Macintosh client software installed and have either LocalTalk or Ethernet connectivity to a VAX running the Pathworks server. The Macintosh Communications Toolbox and DECnet connection or AppleTalk-to-DECnet gateway tools must be installed on the Mac.

Path•Manager provides the ability to manage multiple VAX servers simultaneously. A Voilà! responder must be installed on each VAX. It works with a component in Pathworks, the Remote Management Interface, to provide full access to VAX management commands on the client Macintosh.




**Voilà! Software's Path•Manager will allow Mac users to create and set privileges for user accounts on a VAX server. An extensive on-line manual is provided through balloon help.**

Users can create new file servers, print servers or server volumes by selecting the location on a VAX where they wish to install it. Path•Manager then presents a dialog box in which the user can select from the appropriate preferences and privileges for each type of server. Users also can see detailed descriptions of each VAX privilege when using balloon help.

"Path•Manager gave us the ability to see what we're doing on the VAX rather than having to imagine what we're doing through the command line," said beta-tester Scott Joy, project manager for information services research and development at Liberty Mutual Insurance Co. of Portsmouth, N.H. "There are privileges that our VAX administrators didn't understand before," Joy said.

Users are represented by icons that appear with a police officer's cap when they have been given system administrator's privileges. Similarly, volumes appear with a lock icon when users have read-only access. "Now we can check privileges at a glance," Joy said.

Pathworks' print queues can be controlled by Path•Manager users, who can view, cancel and redirect between print queues jobs sent to Apple LaserWriters and DEC PostScript printers.

Path•Manager is available for VAX 3300-3900, 11/570 and 11/780 servers at $1,450. VAX 6000, 8000 and 9000 servers require a $1,950 license.

Voilà Software is at 1166 Pine St., Suite 5, San Francisco, Calif. 94109. Phone (415) 776-1068; fax (415) 776-9792. □

## MultiPort Extender adds serial ports

Los Gatos, Calif — Silicon Valley Bus Co. last month made switching serial and Apple Desktop Bus ports on the Mac a no-hands proposition with MultiPort Expander.

Available now, the $169 expander is an external device that plugs into the printer and modem ports to provide six serial ports.

Although only two serial ports can be selected for use at one time, changing to different serial devices or network serial connections is possible without having to switch cables. A desk accessory provided by the company lets users reconfigure individual Expander ports on the fly.

The Expander also provides five full-time ADB ports with their own power supplies.

Silicon Valley Bus Co. is at 25546 Summit Road, Los Gatos, Calif. 95030. Phone (408) 353-6600; fax (408) 353-1007. □

## APT updates series of AppleTalk routers

**By Nathalie Welch**

Ijamsville, Md. — APT Communications Inc. last month shipped a new family of AppleTalk routers and cut prices on its previous-generation products.

Called the ComTalk HX series, the new routers can be configured to handle traffic between LocalTalk, EtherTalk, TCP/IP and wide-area protocols. LAN router models start at $3,000 for one Ethernet and two LocalTalk ports; additional ports, up to six, are $1,000. The high-end configuration, which includes one Ethernet and six wide-area network ports, is $9,000.

APT said it enhanced router performance by using dedicated LocalTalk hardware adapters for each LocalTalk port. The company also upgraded the router's Motorola 68000 CPU to 16 MHz and added switch-selectable backbone connectivity through 10BASE T or AUI (attachment unit interface) ports.

Customers can upgrade to the HX for $1,500 when they trade in their current model. A 19-inch rack-mount kit is available for $70.

APT also said it will reduce the price of its other LAN routers by 20 percent to 40 percent.

APT is at 9607 Dr. Perry Road, Ijamsville, Md. 21754. Phone (301) 831-1182; fax (301) 874-5255. □

## Novell supports AppleTalk SNMP in NetWare for the Macintosh

**By Mitch Ratcliffe**

Provo, Utah — Novell Inc. last week introduced an upgrade to NetWare for the Macintosh 3.0 that adds SNMP support for information about AppleTalk devices.

Available now, a $2,995 200-user version of the program's NetWare loaded module (NLM) for the Mac will ship with the ability to return SNMP (Simple Network Management Protocol) responses for the AppleTalk MIB (Management Information Base) I to a network-management application. The Mac NLM runs on a NetWare server and implements the AFP (AppleTalk Filing Protocol), which allows Macs to access files stored there.

Previously, NetWare's SNMP capabilities did not directly support the AppleTalk MIB. Users could, however, collect Mac SNMP data to a NetWare-based management application by using the FastPath 4 and FastPath 5 routers from Shiva Corp. of Cambridge, Mass., which have the ability to translate AppleTalk SNMP data into the TCP/IP packet format for transmission to a NetWare server.

Novell said it is working with several developers to create Mac-based applications for managing NetWare networks.

The company this week also announced a broad coalition of companies that will develop a common DOS-based management standard to be called the NetWare Management System. Under the new standard SNMP information will be used to inventory, map and troubleshoot heterogeneous networks.

Some Mac-based packet analyzer applications, such as the $595 NetMinder 2.0 from Neon Software Inc. of Lafayette, Calif., can capture and decode SNMP packets on mixed NetWare and AppleTalk networks. But NetMinder does not provide management capabilities, only the ability to troubleshoot by examining the packet contents.

In March, Novell will distribute a free copy of the AppleTalk protocol stack with SNMP support to current owners of NetWare for the Macintosh. The company said support for AppleTalk MIB II will be added when that specification is finalized.

Novell Inc. is at 122 East 1700 South, Provo, Utah 84606. Phone (801) 429-7000. □

## Simware puts GUI on IBM mail

**By Nathalie Welch**

Ottawa — Simware Inc. has released an icon-based Macintosh client to the PROFS/OfficeVision electronic-mail system, which the company said users will find more appealing than IBM Corp.'s menu-based front end.

At $275 per Mac, SimVision provides users the ability to create, read and store E-mail on their Macs while off-line; those tasks previously had to be performed when connected to an IBM 3270 host mainframe. The interface provides Mac-like graphics and features such as buttons, pop-up menus, and copy and paste commands.

IBM's OfficeVision, which includes the PROFS mail system, has the largest user base of any host-based office automation system, with more than 2 million mailboxes installed worldwide. Simware developed SimVision after Mac users complained about the sterile IBM interface, according to the company.

SimVision needs to connect to the host only when uploading or downloading E-mail. Once connected, however, users can take advantage of SimVision's graphical user interface to use other OfficeVision functions such as group scheduling, according to the company.

*See SimVision, Page 20*

**Simware's SimVision front end for IBM's OfficeVision E-mail system for 3270 mainframes lets users send or receive mail and provides access to a calendaring feature that allows scheduling of meetings.**

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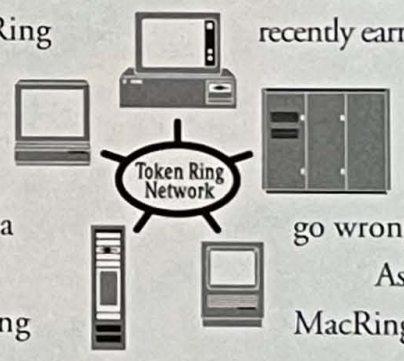


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# Logicode modems sleek, speedy

By Nathalie Welch

Newbury Park, Calif. — Logicode Technology Inc. last month released a new Quicktel modem and fax modem, both housed in the wedge-shaped Xeba enclosure that sports a ring of lighted status icons to monitor call progress.

▸ **Quicktel 9696 Send and Receive Fax/Modem,** priced at $599, provides 9,600-bps send-and-receive fax capabilities combined with a 9,600-bps data transmissions. To boost modem throughput, the Quicktel 9696 offers V.42bis and MNP Level 5 data compression.

The device is bundled with Quick Link II communications software from Smith Micro Software Inc., which provides terminal emulation, a pop-up dialer, scripting and a session capture mode, and with FAXstf fax software from STF Technologies Inc., which supports such features as background operations, scheduling and broadcasting fax transmissions, as well as automatic cover-page generation based on information about the addresses stored in the program's phone book.

Fax features include support for Adobe Type Manager, text rotation, font substitution, scheduled transmissions and group sends. A QuickFax desk accessory enables users to fax a short note without having to quit an application.

▸ **Quicktel V.32bis Modem,** priced at $699, is a 14.4-Kbps V.32bis modem that supports V.42bis and MNP levels 2 through 5 error correction and data compression for higher throughput.

The Quicktel V.32bis Modem also is bundled with Quick Link II communications software.

Logicode offers a lifetime warranty on its entire product line.

Logicode Technology Inc. is at 1817 De-Havilland Drive, Newbury Park, Calif. 91320. Phone (805) 499-4443; fax (805) 499-8588. □

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# Vitalink ships family of RISC-based routers

By Nathalie Welch

Fremont, Calif. — Vitalink Communications Corp. last month shipped a family of RISC-based multiprotocol bridge routers.

▸ **The 6600,** priced from $6,950, is a single-board device capable of bridging and routing AppleTalk Phase 2, Novell Inc.'s IPX (Internetwork Packet Exchange) and TCP/IP protocols. Vitalink said it plans to add support for Fiber Distributed Data Interface (FDDI) to the router this year.

▸ **The 6400,** starting at $17,500, provides a six-slot chassis and a 400-Mbps backplane that supports routing for multiple Ethernet LANs, T1 and T3 connections, and up to two FDDI rings. Additionally, it provides DECnet routing capabilities.

▸ **The 6800,** starting at $24,500, includes a 16-slot chassis and an 800-Mbps backplane and provides support for up to five FDDI rings, in addition to routing the protocols routed by the 6400 model.

The 6400 and 6800 models will allow users to expand the number and types of network cabling supported as their network grows. Each slot in these routers will support a board with independent RISC (reduced instruction set computing) processors.

Vitalink Series 6000 routers also provide a Packet Control Facility, which administrators can use to detect network security violations and end-station problems on TCP/IP networks. The PCF also allows managers to customize access to zones and devices, as well as monitor use on a per-user basis.

Vitalink plans to add support for token ring to the 6000 Series in the future.

Vitalink Communications Corp. is at 6607 Kaiser Drive, Fremont, Calif. 94555. Phone (510) 794-1100; fax (510) 797-8934. □

## SimVision

From Page 18

The application lets users create mail distribution lists by individual user and groups. OfficeVision includes a calendaring feature that provides meeting scheduling between multiple users.

SimVision's Mac-to-mainframe connection must be configured by the user, after which it performs host log-ons automatically. The application supports a variety of connectivity options, including IBM's Systems Network Architecture; modems; TCP/IP; MacMainframe and NetWay gateways from Avatar Corp. of Hopkinton, Mass.; and MacIrma coaxial boards from Digital Communications Associates Inc. of Alpharetta, Ga.

SimVision is not fully compatible with the Mac Classic or SE models, Simware said.

Simware Inc. is at 20 Colonnade Road, Ottawa, Ontario K2E 7M6, Canada. Phone (613) 727-1779; fax (613) 727-8797. □

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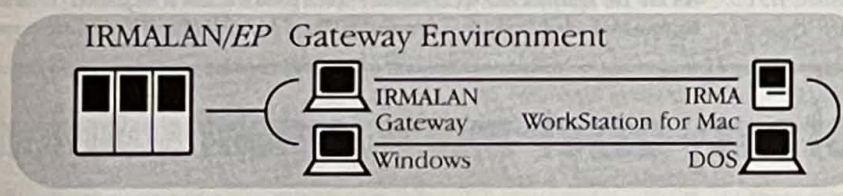


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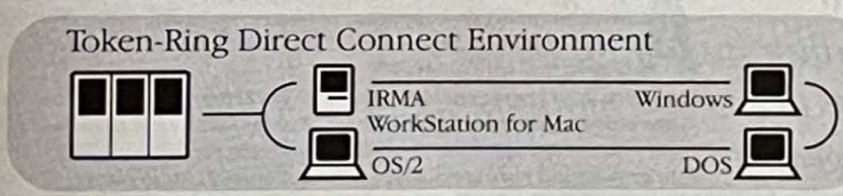


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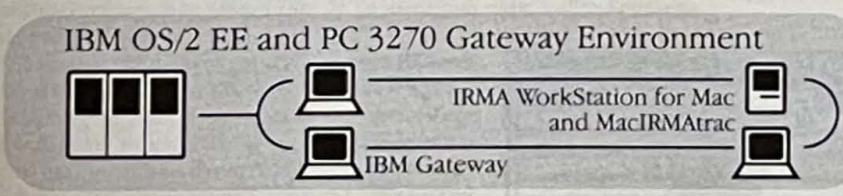


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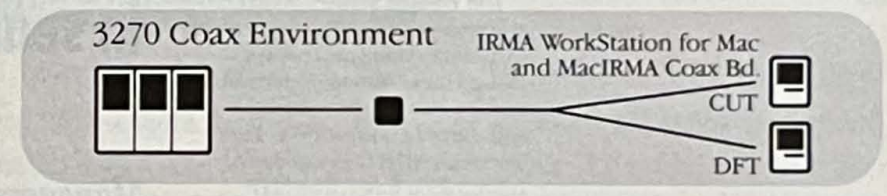


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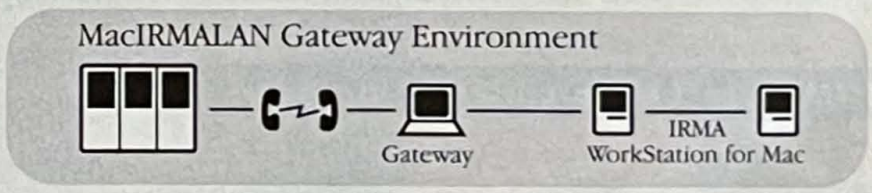


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# Taking a good look at SNMP

*Now that Apple is committed to SNMP on AppleTalk, and compliant products are starting to ship, it's time to examine the details of this emerging standard.*

By Joe Dallatore

Even if your interest in networks is limited strictly to AppleTalk, you've almost certainly read about SNMP (Simple Network Management Protocol). But like many Mac managers, you may not have paid much attention because you don't want to add TCP/IP to your network just to manage your AppleTalk routers. While it is true that most current SNMP implementations presume a TCP/IP network, SNMP is designed to operate independently of any network protocol.

The transport protocol that moves messages between a network-management station and the managed entity (a network node to most of us) is IP. It serves the same purpose as the Datagram Delivery Protocol in AppleTalk, so AppleTalk is capable of carrying SNMP information. A proposed specification for this purpose was written by Greg Minshall of Novell Inc. and Mike Ritter of Apple. (The descriptive document "SNMP Over AppleTalk v2.2," can be found in the developers bulletin board on AppleLink.)

Network managers should expect to see AppleTalk-based SNMP products soon, now that developers have a proposed standard to follow. So what can an AppleTalk network manager actually manage using SNMP?

**The role of SNMP.** SNMP relies on a simple scheme, in which software running on a network-management station performs Get and Set commands to monitor and control information in a networkwide MIB (Management Information Base). The MIB defines the structure of the information available about devices throughout the network.

The MIB describes a sort of distributed database, but there is no database in the conventional sense. Information that appears within the MIB is actually stored on the relevant node. In effect, Set and Get commands act like reads and writes to an object-oriented database.

A device that supports SNMP stores MIB data elements called objects. Management stations read these objects from various network nodes to collect performance or status information. Some MIB objects are writeable, and by changing these a management station can affect the operation of a remote device.

Get operations on MIB objects pose no serious risk to network stability, so every vendor supports them. But SNMP has only a primitive and easily subverted authentication mechanism, so most vendors wisely have delayed or limited support for Set commands. As a result, SNMP in the real world provides a way to monitor devices but not control them. Even when SNMP is available, most routers still can be configured only by the vendors' own management utilities.

**The structure of SNMP.** The AppleTalk-IP working group of the Internet Engineering Task Force in July 1991 published RFC

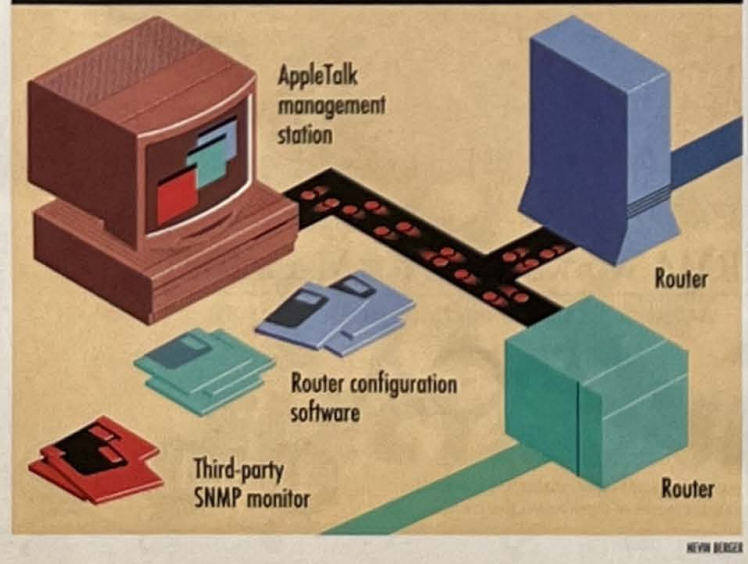
*See SNMP, Page 24*

## AppleTalk MIB group definition for AARP

```
(1)   aarpTable OBJECT-TYPE
      SYNTAX SEQUENCE OF AarpEntry
      ACCESS not-accessible
      STATUS mandatory
      DESCRIPTION
          "The AppleTalk Address Translation Table contains an
          equivalence of AppleTalk Network Addresses to the link
          layer physical address."
      ::= { aarp 1 }

      aarpEntry OBJECT-TYPE
      SYNTAX AarpEntry
      ACCESS not-accessible
      STATUS mandatory
      DESCRIPTION
          "Each entry contains one AppleTalk Network Address to
          physical address equivalence."
      INDEX { aarpIfIndex, aarpNetAddress }
      ::= { aarpTable 1 }

      AarpEntry ::= SEQUENCE {
      aarpIfIndex     INTEGER,
      aarpPhysAddress OCTET STRING,
      aarpNetAddress  DdpAddress
      }

(2)   aarpIfIndex OBJECT-TYPE
      SYNTAX INTEGER
      ACCESS read-only
      STATUS mandatory
      DESCRIPTION
          "The interface on which this entry's equivalence is
          effective.  The interface identified by a particular
          value of this index is the same interface as identified
          by the same value of ifIndex."
      ::= { aarpEntry 1 }

(3)   aarpPhysAddress OBJECT-TYPE
      SYNTAX OCTET STRING
      ACCESS read-only
      STATUS mandatory
      DESCRIPTION
          "The media-dependent physical address"
      ::= { aarpEntry 2 }

(4)   aarpNetAddress OBJECT-TYPE
      SYNTAX DdpAddress
      ACCESS read-only
      STATUS mandatory
      DESCRIPTION
          "The AppleTalk Network Address corresponding to the
          media-dependent physical address."
      ::= { aarpEntry 3 }
```

**The Management Information Base for SNMP over AppleTalk is made up of definitions such as this one. This AppleTalk Address Resolution Protocol group is a table of aarpEntries (1) containing three read-only data objects: a port number (2) and AppleTalk (3) and physical addresses (4).**

## SNMP won't kill proprietary managers




KEVIN BERGER

# In search of easy asset-management solutions

*Managers turn to everything from their own spreadsheets to inventory management databases to track equipment.*

By Cliff Lehman

As if keeping the network and users humming isn't enough, many network managers also have to deal with a certain amount of asset management. Several inventory packages for AppleTalk networks give managers the capability to retrieve and store certain types of information about equipment and software on the network (Mac model, amount of memory, system version and so on). But these packages can't collect other information, such as age, worth and maintenance history, and many don't offer places to store that data if you have it.

**GraceLAN Asset Manager is one of a few commercial products aimed at tracking the hardware and support costs of your Mac installed base.**

**Inventory: More than a list.** Just knowing what hardware and software you have under the roof is not enough. Who's using it, what vendor you bought it from, when its warranty ends and where it is now are crucial to managing the ebb and flow of purchases, equipment movement and repairs. Tracking this information can be a headache, even for small organizations.

"Usually a day at my old job (MIS at Infotron Systems Corp.) would include, for instance, going through files in purchasing to find out where and when equipment was purchased, only to find no date was included," said Chris Maloney, developer programs manager at Dow Jones and Co. Inc. of Princeton, N.J., and beta tester of GraceLAN Asset Manager from TechWorks Inc. of Austin, Texas.

"We kept some information on spreadsheets, but it was impossible

*See Costs, Page 25*

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|---|---|---|
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| TCP/IP, MacTCP and IPTalk support | ■ | ■ |
| DECnet Phase IV support | ■ | ■ |
| AppleTalk Phase 1 and 2 support | ■ | ■ |
| Thin, thick or 10BaseT Ethernet | ■ | ■ |
| Configuration, monitoring and upgrades from anywhere on network | ■ | ■ |
| SNMP and atalkad support | ■ | ■ |
| Seed, non-seed and soft-seed routing | ■ | |
| AppleTalk tunneling over IP backbone | ■ | |
| Remote gateway status via *telnet* | ■ | |
| Out-of-band hardware diagnostics | ■ | |
| Diagnostics written to UNIX *syslog* file | ■ | |
| 2 MB memory | ■ | |
| Optional AppleShare-NFS file sharing | ■ | |
| Optional UNIX-AppleTalk printing | ■ | |
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## SNMP

*From Page 22*

1243, which describes the proposed MIB for AppleTalk networks. RFC 1243 is expected to become an Internet Advisory Board Official Protocol Standard. The AppleTalk MIB defines groups of management information objects (mostly counters and data tables) for the AppleTalk network protocols. Although intended primarily for the Internet community, RFC 1243 has been implemented already by several AppleTalk router vendors and certainly will be the basis for future AppleTalk and SNMP products.

If a device includes support for a particular protocol group defined in the AppleTalk MIB, it must implement every object in the group. A synopsis of the objects in each AppleTalk MIB group follows.

Counters constitute a large portion of the AppleTalk MIB. For every port and most protocols, if something can be counted, it probably is; tables of information maintained within a node constitute most of the rest.

**LocalTalk Link Access Protocol.** This group contains counters for the low-level interface to a LocalTalk network, including every kind of good and bad packet detected on each LocalTalk port in the device being monitored. Similar objects are defined elsewhere in the MIB for other physical interfaces (Ethernet, token ring, etc.), but because LocalTalk is a physical-layer implementation unique to AppleTalk networks, the MIB objects to monitor it are defined here.

**AppleTalk Address Resolution Protocol.** This group provides access to a node's AARP table, which is used to map AppleTalk addresses to physical addresses for AppleTalk networks other than LocalTalk.

**ATPort.** This group defines a table that contains configuration information for each port on a router. The table includes the network number (or range of numbers), zone lists, default zone, network address and status (operational, unconfigured, off or invalid) for each port. Whether a port used an explicit, garnered or guessed configuration when it started most recently is also available.

**Datagram Delivery Protocol.** This group maintains read-only counters on the handling of datagrams: the number in, out, forwarded or dropped, and why. (Each possible reason has a counter, of course).

**Routing Table Maintenance Protocol.** This group is designed primarily for monitoring and diagnosing AppleTalk routers, and it allows for some dangerous fiddling. Read-write access is permitted for each entry in the routing table, so someone at an SNMP management station can change the routing information in a running router. While this prospect will raise hairs on the necks of many managers, it might allow them to perform some currently impossible tasks, such as adding a new zone or changing a network range on a running network without having to reboot every router on their networks.

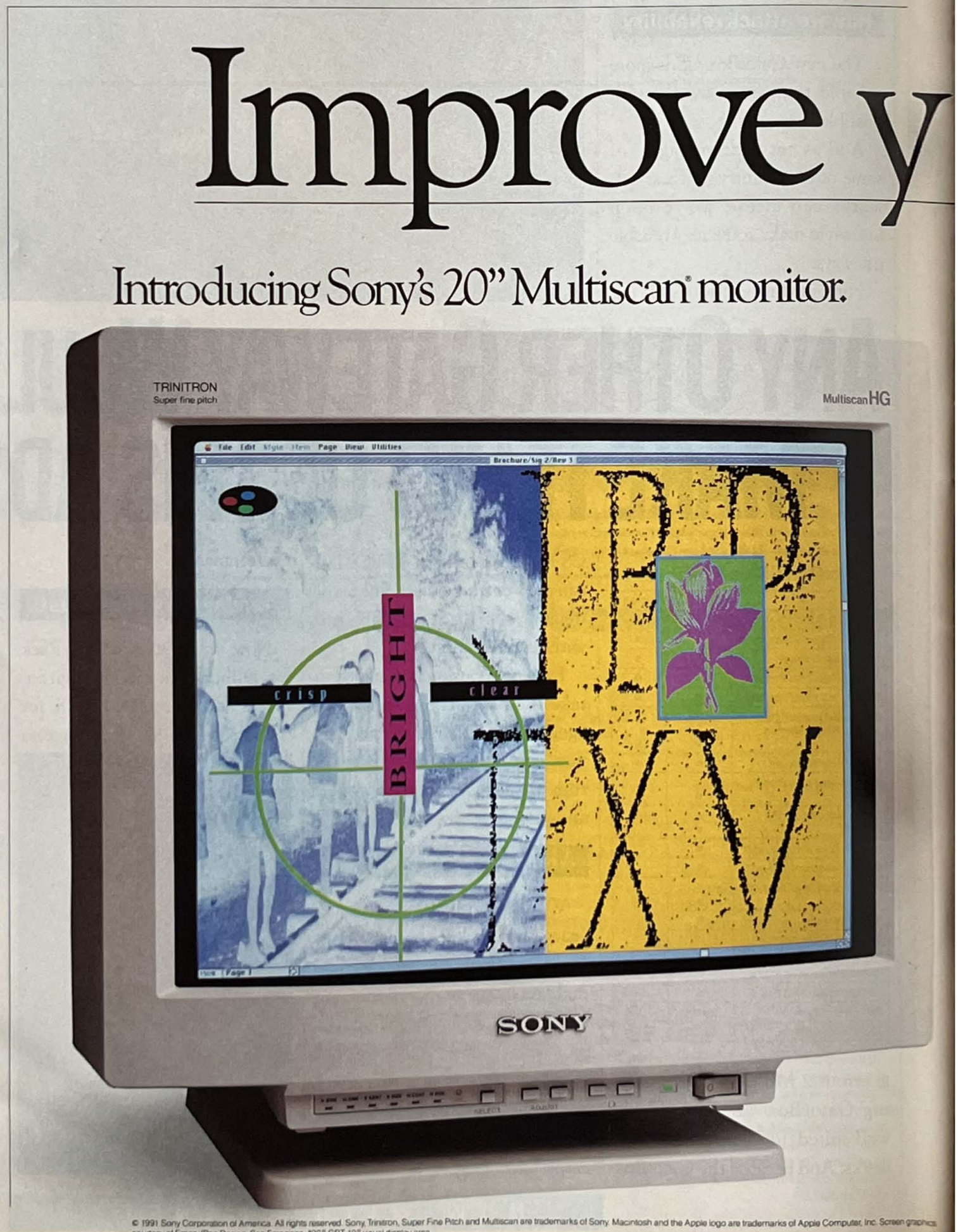
**Kinetics Internet Protocol.** This group provides configuration, status and routing information in a tunneling router using KIP. Information stored here includes hop count, KIP broadcast address, AppleTalk network information for each routing entry, and whether the data is shared with other routers or kept private.

**Zone Information Protocol.** This group provides access to a node's ZIP Table, which includes the numbers and names for each network known to the node being monitored. This information could be useful in diagnosing ZoneList problems. Individual ZIP Table entries can be changed from valid to invalid, forcing the node to deactivate the bad entry.

**Future groups.** Earlier proposed versions of the AppleTalk MIB included groups for higher-level protocols, such as AppleTalk Transaction Protocol, AppleTalk Session Protocol, Printer Access Protocol and ADSP (AppleTalk Data Stream Protocol), but these were dropped from RFC 1243. Routers and bridges don't care about or track these protocols, but database, file and print servers sometimes do. Without standard groups for these protocols, however, you are not likely to see SNMP management or monitoring of printers or servers, except through private or experimental MIBs created by vendors.

**Traps.** One SNMP facility, called trapping, allows a device to notify a management station whenever a significant event occurs. There are five basic traps that indicate when a network interface or device comes up or shuts down. A mechanism for sending or receiving traps is included in the "SNMP Over AppleTalk v2.2" document.

At first, traps sound like a great feature, but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there are many practical problems in implementing them. For a router to notice significant events, it would have to spend valuable CPU time and memory constantly evaluating what it is doing, instead of just moving data as quickly as possible. Few customers, given the choice, are willing to pay more or accept reduced performance for increased self-awareness in a router. Also, there is no guarantee that a trap, if sent, is going to be heard. If the device or the network is having a problem that triggers a trap, it might encounter the same problem getting the trap message delivered.

**Private MIBs.** Third-party vendors are encouraged to define their own extensions to the AppleTalk MIB, so network-management stations can access the special features of their products. Among sellers of popular AppleTalk routers, both Compatible Systems Corp. and Cayman Systems Inc. support the current proposed AppleTalk MIB.

Shiva Corp., Wellfleet Communications Inc. and Cisco Systems Inc. have published private or temporary MIBs specific to their products, in some cases because their SNMP support preceded the publication of an AppleTalk MIB. Vendors are likely to deprecate private MIB objects that have matching objects in the standard AppleTalk MIB.

If you want to examine the details, a vendor's MIB will reveal the secrets of your favorite router box; just ask for the vendor's Open Systems Interconnection Abstract Syntax Notation One (ASN.1) MIB definition. □

## Costs

*From Page 22*

to manage," Maloney said. "We kept written lists; we kept bar codes on machines and accompanying lists. But we still had to go around and do inventory, go back and see when we bought an item, then try to remember how much we paid for it and then figure the depreciation. It was a nightmare."

Even an inventory-management application does not make the task more pleasant. "We punched in fixed asset numbers and serial numbers into GraceLAN, and that's been working fine for the moment," said Dan Collins, MIS technician at Pleasant Co., a mail-order company in Middleton, Wis. "But as machines move around, it becomes a headache to keep track of everything." Like many other managers, Collins would like a database geared to his needs and dreams of developing one in-house.

**Accounting, depreciation, justification.** In most companies, capital purchases are tracked by an accountant or accounting arm rather than information services. But network managers and department heads often still need information regarding prices, and some may be required to report on costs to the accounting department. At smaller sites, the same person who manages the network also may have to manage the assets.

"It's handy to do my own estimates of depreciation," said Gary Fairbairn, editor at Western Producer Publications, a regional newspaper in Saskatoon, Saskatchewan. Fairbairn's parent company, Saskatchewan Wheat Pool, does most of the real accounting and depreciation figuring. But that can leave him and his 30-Mac site in the dark.

"I will do a report to keep track of current value and use that to make decisions on buying," Fairbairn said. "I don't have an indication from the accounting department of what is depreciating for what."

**It can be done by computer.** Although tracking equipment costs and related data is a common task, Mac tools for it have become available only recently. Managers have resorted to home-brewed databases or spreadsheets for tracking computer assets. This method often requires (at least) one extra step of exporting data gathered by inventory-management applications.

Some are plugging their own databases into hooks provided by Pittsburgh-based CSG Technologies Inc. for its Network SuperVisor, which costs $495 or more depending on the number of users. The company's $395 SuperVisor Developer Kit has routines that can be added to asset-management systems based on ACIUS Inc.'s 4th Dimension. This capability allows managers to integrate information gathered by SuperVisor with their existing databases.

Aperture Technologies Inc. of Stamford, Conn., sells Aperture Network & Resource Manager, a $1,495 database built on the company's Visual Information Manager. Using floor plans as a base, managers can add information about specific pieces of equipment based on their locations.

MacVONK•USA of Narberth, Pa., which sells the $645 netOctopus inventory and updating program, is adding asset-management functions to Version 1.1 of the program.

At the end of last year, TechWorks released its $895 GraceLAN Asset Manager, a standalone database written in 4D that imports information gathered via TechWorks' GraceLAN Network Manager and lets managers enter and manipulate most of the additional asset information they need without programming. GraceLAN Network Manager costs $495 to $1,195 depending on the number of users. □


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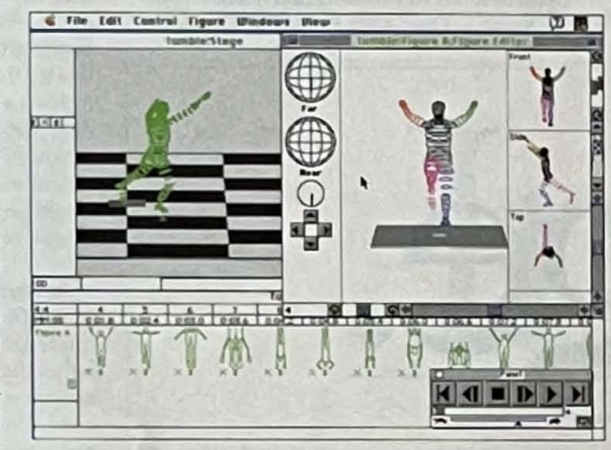
# LifeForms puts moves on 3-D figures

By Michael Murie

Creating realistic animations of human figures is one of the most difficult and complex tasks that animators face. It is slow and tedious work, particularly if you are working with 2-D animation programs.

Three-dimensional programs such as MacroMind-Paracomp Inc.'s Swivel 3D and Specular International Ltd.'s Infini-D make it a lot easier because you can create a 3-D model of the human body and animate that. Even so, it is still a daunting task. That's why we are so intrigued by LifeForms, a $495 program scheduled to ship in March from MacroMind-Paracomp. This program, developed by Seattle-based Kinetic Effects Inc., is designed to create animated human forms with great ease and speed.

How does it do this? LifeForms is optimized to animate one form — the human body — and provides tools for easily changing the relation of elements of the form into natural-looking positions.



MacroMind-Paracomp's LifeForms uses the Stage, Figure Editor and Time Line windows (clockwise from top left) to create figure animation. This figure is being viewed in Contour mode.

Multiple figures can be animated on the Stage. Users change the orientation of a figure to the Stage — its altitude (height above stage) or orientation (direction the character faces) — by clicking and dragging. It also is possible to change the view of the Stage to see the animation from different angles.

LifeForms draws figures in one of two ways. In Outline mode, a line represents the shape of the figure. While this is more detailed than a simple stick figure, it is still a very stylized representation of the human body. In Contour mode, the figure is represented by numerous cross sections. These provide more-realistic shapes that also convey the mass of the figure but require more processing to draw. LifeForms does not animate small body parts such as mouths or individual fingers.

While a figure is placed and oriented on the Stage, users actually move parts of the body in the Fig-

See LifeForms, Page 28

# Specular's BackBurner gets Infini-D cooking with distributed rendering

By Neil McManus

Amherst, Mass. — Specular International Ltd. this April will release BackBurner, an application that soups up Infini-D rendering speeds by tapping into the processors of multiple Macs on a network.

BackBurner will be priced at less than $895. Infini-D 1.1.2, Specular's 3-D modeling and animation package, is available now for $895.

On a network of 10 identical Macs, BackBurner will speed up complex Infini-D rendering tasks by up to 9.5 times, Specular said.

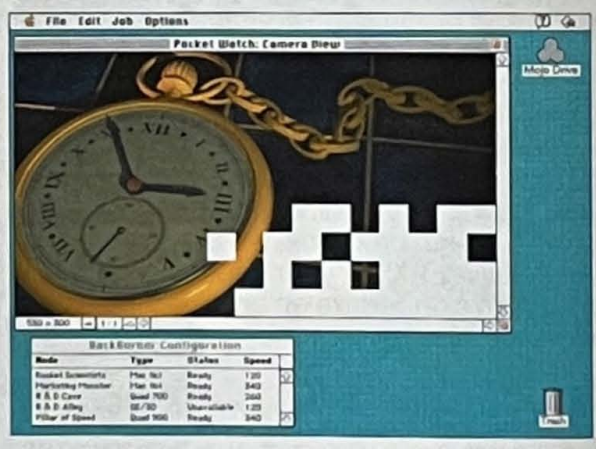
Peter Allen, an illustrator and animator from Santa Barbara, Calif., said he is looking forward to the speed improvements BackBurner promises. "A complex animation with ray-tracing and transparency effects can take a couple hours for each frame to render in Infini-D. If your animation is 30 frames per second, rendering time really adds up," Allen said.

BackBurner consists of a main application and several rendering "engines" that reside on remote Macs. The application offers a batch-processing mode, allowing users to queue up multiple jobs to be rendered on the network unassisted. The application polls the network and automatically takes advantage of all active remote engines.

The BackBurner rendering engines can be turned on or off through a control panel that resides on each of the remote Macs. The rendering workload is balanced among the remote Macs and is automatically redistributed if individual engines crash or are disabled during a job. Users on remote Macs can work on other applications while BackBurner is tapping their CPUs in the background.

BackBurner will compete with distributed-processing systems from Ray Dream Inc. and Strata Inc. (see MacWEEK, Aug. 6, 1991).

Specular International Ltd. is at 233 N. Pleasant St., P.O. Box 888, Amherst, Mass. 01004-0888. Phone (413) 549-7600; fax (413) 549-1531. □



This clock illustration took 26 minutes to render using Specular's BackBurner and six remote Macs. The same job took two hours on a single Mac IIfx.

# Low-cost Danish drum scanner hits U.S. shores

By Matthew Rothenberg

Larkspur, Calif. — A new drum scanner from Denmark has rolled into the American market, and three U.S. companies are offering it for less than $30,000.

The ScanView ScanMate captures 12 bits of RGB (red, green, blue) color information in three passes or 12-bit gray-scale images in a single pass at resolutions of up to 2,000 dpi. It can scan images ranging from 35mm slides to 220mm-by-300mm prints or transparencies; it scans a 24-bit-color 35mm image at 2,000 dpi in about six minutes.

Unlike other drum scanners, which use photomultiplier tubes (PMTs), the ScanMate's sensors are based on proprietary photodiode technology.

The ScanMate saves scanned images in TIFF, and it ships with a SCSI interface and plug-ins for Adobe Photoshop and Letraset's ColorStudio image-editing applications.

The scanner is manufactured by ScanView A/S of Skovlunde, Denmark. Distributors Goldleaf Publishing Inc. of Larkspur, Calif., and AGS Inc. of Manchester, N.H., are selling the ScanView ScanMate for $29,995. In addition to ScanView's own one-year warranty, AGS said it is offering a maintenance program for 10 percent of the cost of the scanner, and Goldleaf said it provides a service contract with costs based on the number of units and their location.

In addition, Danagraf North America Inc. of St. Louis is offering the device under its own Danagraf ScanMate label for $29,995, with a 90-day service contract.

Although the ScanMate's price sets a new low for drum scanners, Sanjay Sakhuja, owner of San Francisco-based Digital Pre-Press International Inc., said, "Whether they're $30,000 or $100,000, drum scanners require a higher level of skill than meets the eye. Not everybody could have one on their desktop." □

# MediaLink taps into multimedia LANs

By Dartanyan L. Brown

Redondo Beach, Calif. — Timing is everything, at least in the world of multimedia production.

Lone Wolf Inc. this month shipped MIDITap and Virtual Studio, which let multimedia production facilities move MIDI (Musical Instrument Digital Interface), SMPTE (Society of Motion Picture Television Engineers), digital audio and video information from point to point in real time.

The system includes MIDITap, priced at $2,295, and Virtual Studio software for the Macintosh, priced at $149. Additional MIDITap modules are $1,595 each; and FiberLink, a bidirectional fiber optic-to-MIDI interface system, is $295.

Lone Wolf's new products tap into MediaLink, the company's proprietary fiber-optic networking protocol (see MacWEEK, Sept. 25, 1990).

In contrast to Ethernet and token ring, MediaLink allows real-time bidirectional transmission of multimedia data at speeds of up to 20 Mbps. "It's sort of like Federal Express; MediaLink doesn't care what's in the packets, it just delivers them," said Mark Lacas, president of Lone Wolf.

"MediaLink is the most exciting development of technology that I've seen," said Herbie Hancock, international jazz star and president of Los Angeles-based Herbie Hancock Music. "If you want to network a large [multimedia] facility, it's the only way to go. Using fiber-optic cable, you can have up to a mile and a half between MIDITaps, which is

See MIDITap, Page 28

# Color separators in draw programs: Useful or one feature too many?

By Connie Guglielmo

Developers are adding more features to new versions of their programs in an attempt to outdo their competitors. In the process, they increase the number of checklist items users come to expect in those applications.

In the graphics arena, the combination of technological advancements and "featuritis" has led to the evolution of the draw program from a simple application for drawing rectangles and circles to an intricate program with such features as pressure-sensitive drawing tools, type kerning and even spell checking.

Now developers are adding color separations to the feature list. As the Mac community's understanding of color has advanced in the past few years, color separations have become the latest art form, with some developers making a business out of reliable, predictable color separation and pre-press applications, such as SpectreSeps from Pre-Press Technologies Inc. of Carlsbad, Calif.

Do these developers and graphic artists actually use the color-separator

See Color separators, Page 30

# SuperMac Announces More Bang For Less Bucks.

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# FreeHand provides mettle for AP in Olympic graphics

## *News service produces art for winter games*

**By Anita Malnig**

New York — The Winter Olympics are just now under way but the graphics department at The Associated Press has been thinking snow for more than a month since it decided to produce over a dozen Mac-based infographics detailing the games in Albertville, France.

"It took a lot of work and planning," said Karl Gude, AP art director. Part of that work was learning Aldus FreeHand 3.0 on the job; this was the first major project with FreeHand since the department switched from MacDraw II last year.

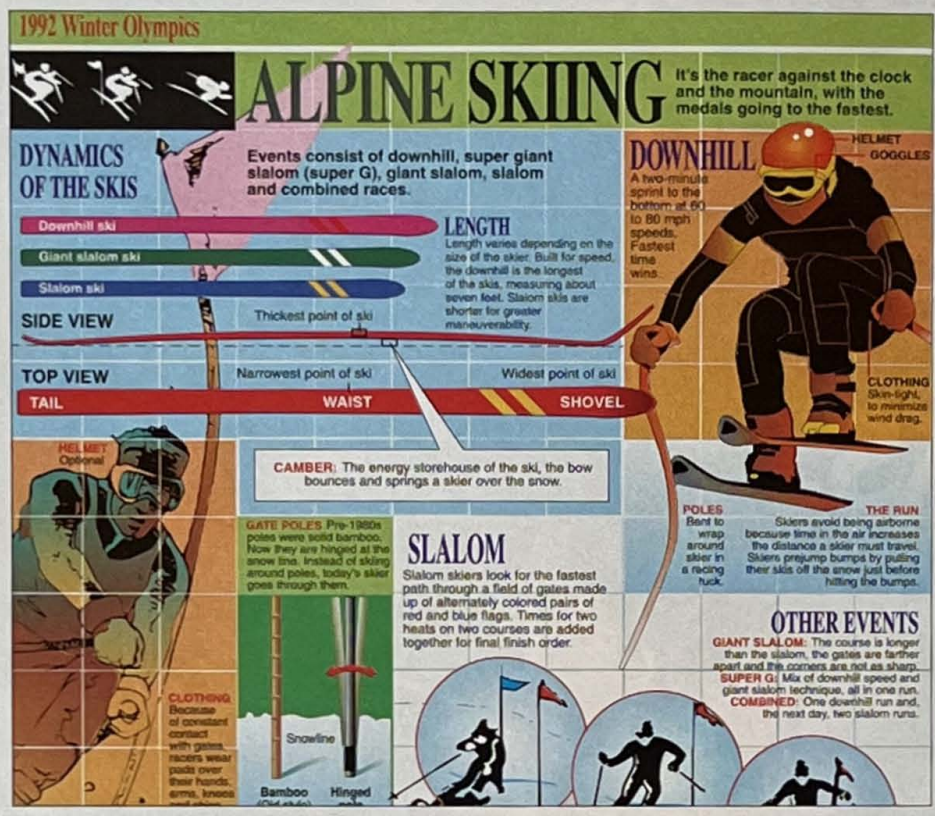
"The artists needed a change," said John Monahan, director of graphics. "FreeHand has wonderful color tools. The team at Aldus is clearly committed to making it work in our [newspaper] environment. We can export back to old PICT, to MacDraw II if we need to."

Monahan also said the Olympics infographics are far more complex than the ones they did in 1988, both because of FreeHand's fluidity, as well as the department's increased knowledge of Macintosh graphics.

Other reasons for the switch, a major decision considering that AP has more than 1,000 members worldwide, is that FreeHand is a favorite in newspaper art departments and relatively easy for a MacDraw user to learn, Monahan said.

However, Gude said he was "nervous about using FreeHand at first," and he commented that MacDraw had "revolutionized our industry." But after using FreeHand, he praised its type handling, color blending and easy-to-use drawing tools.

Gude's team of four artists produced the infographics from research to final color on most Olympic events such as bobsledding, biathlon, luge and figure skating.


1992 Winter Olympics
ALPINE SKINGS
It's the racer against the clock and the mountain, with the medals going to the fastest.
DYNAMICS OF THE SKIS
Events consist of downhill, super giant slalom (super G), giant slalom, slalom and combined races.
Downhill ski
Giant slalom ski
Slalom ski
SIDE VIEW
Thickest point of ski
LENGTH
Length varies depending on the size of the skier. Built for speed, the downhill is the longest of the skis, measuring about seven feet. Slalom skis are shorter for greater maneuverability.
TOP VIEW
Narrowest point of ski
Widest point of ski
TAIL
WAIST
SHOVEL
CAMBER: The energy storehouse of the ski, the bow bounces and springs a skier over the snow.
DOWNHILL
A two-minute sprint to the bottom at 60 to 80 mph speeds. Fastest time wins.
HELMET
GOGGLES
CLOTHING
Skin-tight, to minimize wind drag.
HELMET
Optional
CLOTHING
Because of constant contact with gates, racers wear pads over their hands, arms, knees
GATE POLES Pre-1980s poles were solid bamboo. Now they are hinged at the snow line. Instead of skiing around poles, today's skier goes through them.
Snowline
Bamboo
Hinged
SLALOM
Slalom skiers look for the fastest path through a field of gates made up of alternately colored pairs of red and blue flags. Times for two heats on two courses are added together for final finish order.
POLES
Bent to wrap around skier in a racing tuck.
THE RUN
Skiers avoid being airborne because time in the air increases the distance a skier must travel. Skiers prejump bumps by pulling their skis off the snow just before hitting the bumps.
OTHER EVENTS
GIANT SLALOM: The course is longer than the slalom, the gates are farther apart and the corners are not as sharp.
SUPER G: Mix of downhill speed and giant slalom technique, all in one run.
COMBINED: One downhill run and, the next day, two slalom runs.

**AP Art Director Karl Gude, designers Cynthia Greer and Jeff Magress and illustrator Ross Toro teamed up to produce text- and image-laden infographics for the Albertville, France, games. The team composed the pictures in Aldus FreeHand 3.0.**

Designer Jeff Magress said he liked the natural look of some of the figures in the infographics, which artist Ross Toro drew by hand. These figures were scanned, converted into outlines with Adobe Streamline and imported into FreeHand.

Drawing directly in FreeHand was also a pleasure, said Magress, who praised its Bezier curve control, blending ability and the fact that one works on the actual image instead of its underlying linear structure.

Dave Tinney, graphics editor at the Columbian in Vancouver, Wash., said the Olympic infographics "are so beautiful you just don't want to pass them up. We're just figuring out a way to output them." □

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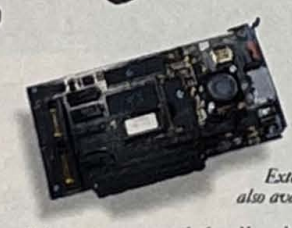

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## LifeForms

*From Page 26*

ure Editor. Here any part of the figure can be grabbed and dragged into another position or manipulated using one of two sets of orientation tools. The Rotation Control pivots the part about its linking point, while the Position Control moves the part left and right or back and forth. Alternatively, the two hemisphere tools are circles within which you can drag to show the new position of the part. Figure shapes can be saved in figure palettes, then copied and pasted into other LifeForms documents.

Animations are assembled in the Time Line using keyframes. For example, a figure is placed in Frame 1. At Frame 4 in the Time Line, the figure is selected, and the leg is raised in the Figure Editor. When the animation is played back, LifeForms will create the in-between frames (2 and 3) so that the figure smoothly raises its leg. Frames can be copied and pasted from other frames, other animations or figure palettes.

Any part of the body can be selected either by clicking the part or selecting the name of the part from a menu. If you click and hold down the mouse, the menu list of body parts will appear, and the part can be selected. LifeForms offers other unusual menu functions. Menus or single menu items can be torn off and dragged about the screen, and users can create new menus that save lists of animations or figure shapes.

Once an animation is created it can be exported to Swivel 3D or 3DGF (3-D Geometry File) format for rendering as a final animation. The animation also can be exported as a QuickTime movie or PICS file for importing into other programs. Finally, an external command (XCMD) is included for playing back LifeForms animations from within HyperCard, Director or any other program that supports XCMDs. These routines allow you to play back the animation, as well as altering parameters such as the orientation of the screen and its color.

LifeForms looks to be a promising way of creating figure animations, particularly if you have to create many of them. Alone it may be suitable for choreographers or others interested in modeling human movement. But most users will use the outlines as a basis for final animation in 2-D programs or export the animation to a 3-D program for final rendering.

MacroMind-Paracomp Inc. is at 1725 Montgomery St., Second Floor, San Francisco, Calif. 94111. Phone (415) 956-4091; fax (415) 956-9525. □

## MIDITap

*From Page 26*

plenty of room. It's already in the wall in our new studio in L.A.

"With MediaLink, before long, I'll be able to be in Los Angeles and sit in on a recording session in New York — in real time," Hancock said.

Bryan Bell, a Portland, Ore.-based computer consultant, praised MediaLink's ability to handle MIDI and audio data simultaneously. During the world tour of Atlantic Records recording artists INXS, Bell's company connected the whole band to one MediaLink system. "It's a beautiful thing," he said.

Later this year, Lone Wolf plans to release products that handle SCSI information across MediaLink. This will let users instantly access hard drives across the network.

Lone Wolf Inc. is at 1509 Aviation Blvd., Redondo Beach, Calif. 90278. Phone (213) 379-2036; fax (213) 374-2496. □

# New Montage ups film recording pace

**By Matthew Rothenberg**

Sunnyvale, Calif. — Presentation Technologies Inc. is ready to roll with a new high-speed 24-bit-color film recorder.

Slated to ship by the end of the month for $6,995, the Montage FR2 promises to generate a 35mm slide at a resolution of 4,096 vertical lines in as little as one minute, including rasterization.

The new PostScript-compatible model is about 300 percent faster than its predecessor, the Montage FR1, according to Presentation Technologies.

The Montage FR2 captures 12 bits of RGB (red, green, blue) data per pixel and uses the additional color information to smooth the 24-bit images and eliminate banding. The device includes a 20-MHz AMD 29000 graphics processor and 2 Mbytes of video RAM as a memory buffer that ensures an even transfer of data to maintain constant imaging speeds.

The Montage FR2 comes with a software rasterizer that supports PICT format as well as PostScript via Professional Output Manager, an emulator from Visual Business Systems Inc. of Atlanta.

The device also ships with a SCSI interface and a 36-exposure 35mm camera back. In addition, Presentation Technologies offers an $895 camera back designed for Polaroid prints and overhead transparencies, and it will offer a bulk-loading back and a 4-by-5-inch attachment later this year.

Current owners of the Montage FR1 will be able to upgrade to the Montage FR2, although pricing has not been set.

Presentation Technologies Inc. is at 779 Palomar Ave., Sunnyvale, Calif. 94086. Phone (408) 730-3700 or (800) 782-2543; fax (408) 749-0746. □

# Publish It! Easy 2.5 takes to networks

**By Carolyn Said**

Northbrook, Ill. — Timeworks Inc. is now offering a new multilaunch version of Publish It! Easy designed to make life easier for network administrators.

With Version 2.5 of the entry-level desktop publishing program, administrators need to keep just one copy on the server. The network version permits multiple concurrent launches.

Publish It! Easy combines word processing, drawing and painting tools, as well as mail merge, database and page-layout features.

Timeworks said corporate users had requested the capability to easily update multiple users. In addition, large-volume sites get a price break with the network version, the company said.

The network version sells for $349.95 for the server and one user. Additional licenses can be added in increments of one or five. LANPacks are $225 for one user or $975 for five additional users. Until March 31, Timeworks is offering the network version and two LANPacks for $399.95.

Timeworks continues to sell Publish It! Easy 2.19, the non-network version, for $249.95.

Timeworks Inc. is at 625 Academy Drive, Northbrook, Ill. 60062. Phone (708) 559-1300; fax (708) 559-1399. □

# Santos preps hi-res, low-cost slide scanner

**By Matthew Rothenberg**

Torrance, Calif. — Santos Technology Inc. is readying a new 24-bit-color slide scanner that promises to combine high resolution and fast performance at a price well below competitors'.

Scheduled to ship in April for $2,695, the Mira•35 uses proprietary single-pass CCD (charge-coupled device) technology to capture 35mm slides in 24-bit color at resolutions of up to 2,700 dpi. It scans 10 bits per pixel and automatically optimizes the RGB (red, green, blue) data to 24 bits, according to Santos.

The scanner also features automatic calibration of an image's dynamic range using a combination of hardware and firmware. The Mira•35 can capture a 2,700-dpi image in less than three minutes, the company said.

The Mira•35 will ship with a SCSI interface and software that controls gray-scale, color, positive or negative scans; resolution; scaling; scan area and orientation; brightness; and contrast. The scanner will come bundled with an as-yet-undetermined third-party image-editing software package, Santos said.

Santos Technology Inc. is at 383 Van Ness Ave., Suite 1604, Torrance, Calif. 90501. Phone (310) 320-8888; fax (310) 212-6688. □

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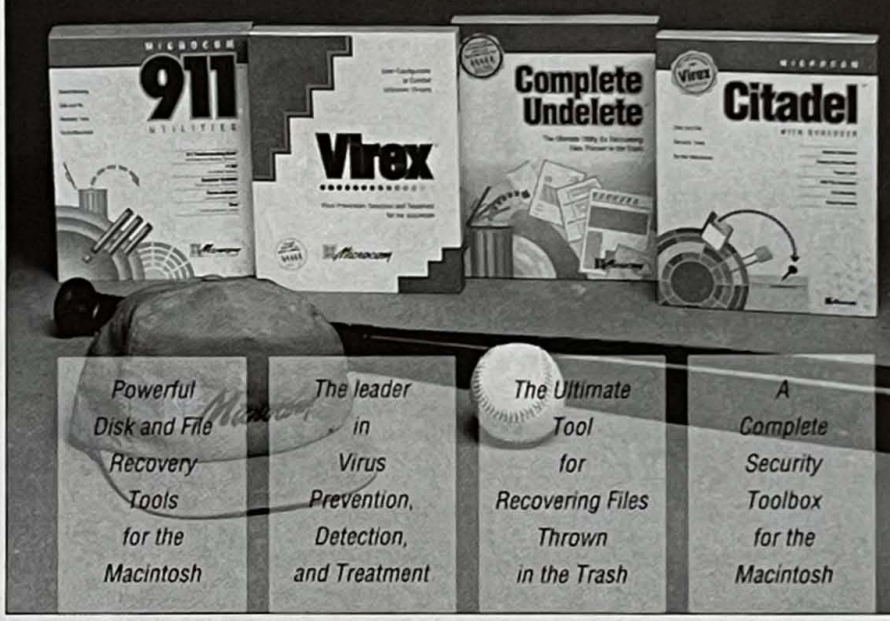


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## Color separators *From Page 26*

utilities in the popular draw programs, including Adobe Illustrator, Aldus FreeHand and Deneba Software's Canvas?

The answer among users is yes, even when they are not using the program's separation utility as the last step before printing.

"I use the internal separator in FreeHand mostly for quick tests on my LaserWriter to make sure I haven't done anything horribly wrong," said graphic designer Tim Celeski of Seattle-based Tim Celeski Studios, who works both with FreeHand and Illustrator.

Creating a color separation is as easy as selecting the Save As Separation option in a simple dialog box. Programs such as FreeHand, Illustrator and Canvas generate four separate files for the CMYK (cyan, magenta, yellow, black) color data in the image.

Lee Sylvester, graphic designer and principal of Lee Sylvester Art Direction in Seattle, also does quick tests using Adobe Separator after creating an image with Illustrator. A FreeHand user as well, Sylvester said he uses FreeHand's separator all the time "except when the FreeHand file has a color scan within it because I need more control over the separation, such as undercolor removal."

Both Sylvester and Celeski said that, generally, after their test separations, they save their FreeHand and Illustrator files in Encapsulated PostScript format and export them to Aldus PrePrint, a separation and pre-press program, to create the separation.

"I like the interface, as well as the level of control, better in PrePrint," said Sylvester, adding that PrePrint can handle CMYK images, the color model used by printers, as well as converting RGB (red, green, blue) images, such as scanned photographs, into CMYK.

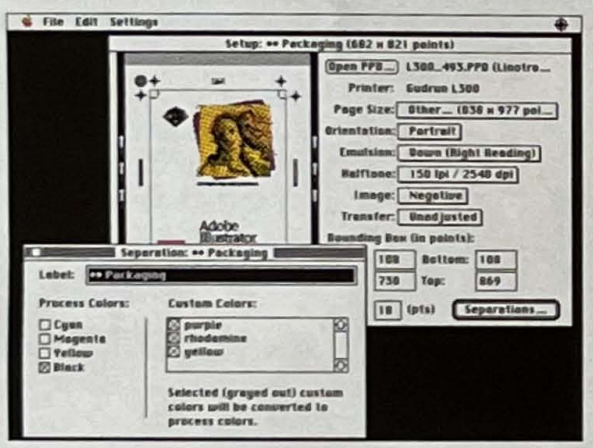
"The separator in Photoshop is really a utility to convert RGB to CMYK. That's a non-trivial exercise," said Steve Guttman, Adobe product marketing manager. "In Illustrator, Adobe Separator takes object-oriented artwork, in which color value for art is specified in CMYK, and sorts the color out to separate planes. PrePrint tries to do both."

Adobe, which Guttman said was the first to include a separation utility with its draw program when it released Adobe Separator with Illustrator 88, believes that a separation utility is a necessary feature, not something users should have to turn to a separate application to get. "There's no way of producing color separations without a separator utility, and we know that most people are buying and using our drawing program for print and not for screen," Guttman said.

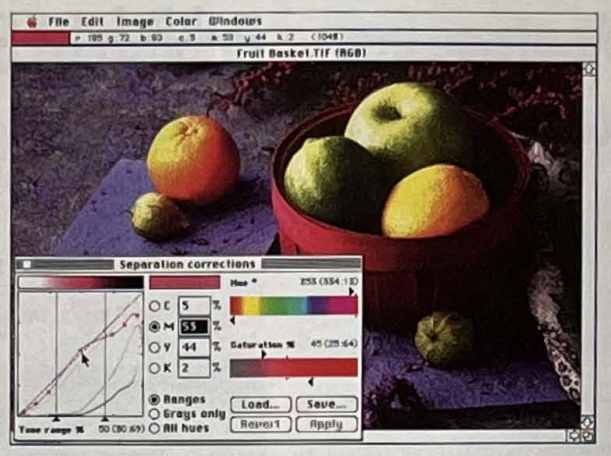
One holdout in the color-separation race is Claris Corp.'s MacDraw Pro, the latest descendant of the grandfather of draw programs. MacDraw Pro users must save their files in EPS and export them to a color-separation application.

"It seemed there was a high cross-ownership between MacDraw Pro and either QuarkXPress or PageMaker," said Steve Pollock, MacDraw Pro product manager. "This isn't to say that we wouldn't do a simple separator. We may respond to requests."

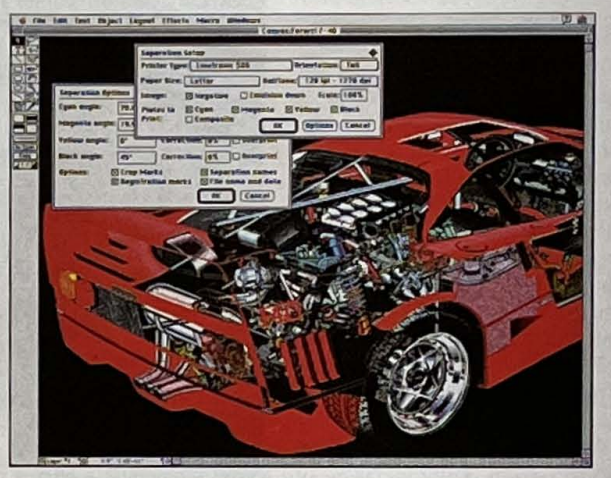
Graphic artist Dave Rumfelt of Deneba said he considers Canvas' built-in separation utility an important feature of the draw program. "As a graphic artist, I want an integrated package, one that lets me do everything or most things from within the program, Rumfelt said. "Even if I'm running MultiFinder, I don't want to have to quit the application and then find the file with another application to separate it. It just saves time to be able to create a separation from within Canvas." □




**Adobe graphic artist Dean Dapkus brought an Illustrator file into Separator. In the background is Separator's standard dialog box. In the foreground is the Separations option dialog box where users can choose either custom or process color separations.**




**Aldus' separation and pre-press program, PrePrint, handles CMYK images found in FreeHand, Illustrator and Canvas, as well as converts RGB images into CMYK.**



**Deneba graphic artist Dave Rumfelt says Canvas' built-in separation utility saves time; he doesn't have to quit the draw application because he can create the separation from within Canvas.**

SCREEN TEST

# Mac shaders shed new light on multimedia promo

Point Richmond, Calif. — When Boston-based ad agency The Selig Group commissioned software developers Mitch Prater and Bill Kolomyjec to create an ad with a carnival theme for an upcoming multimedia conference, the pair took their Mac shader library for a ride, creating a host of amusement-park shapes and sights.

"We used Swivel [3D from MacroMind-Paracomp Inc.] and some propriety modelers to design the shapes. We kept the geometry simple and let the shaders do most of the work," Kolomyjec said of the ad for Media '92, a multimedia conference to be held Feb. 26-28 in Los Angeles.

Kolomyjec and Prater had the benefit of inside knowledge about the software they used; they had developed the shader packages for their current company, The Valis Group, based here, for use with software from their former company, Richmond, Calif.-based Pixar.

Working on a Mac IIfx with a 24-bit-color SuperMac Technology card and a 19-inch monitor, Prater and Kolomyjec imported the multimedia-inspired "rides" into Pixar's Showplace scene-setting software. Next, they attached The Valis Group's VG Looks shaders — in Showplace Look format — to the objects, applying Translucent Plastic to the balloons, Wallpaper to the circus tent and Polished Metal to the microphones in the merry-go-round. Prater and Kolomyjec also created custom shaders for other objects, such as the CD-ROM Ferris wheel, in C code, as well as using some of Showplace's own shaders. Still in Showplace, the pair set up the camera position and arranged the lights to mimic daylight.

To save time rendering the high-resolution image, Prater and Kolomyjec exported the Showplace file in RIB (RenderMan Interface Bytestream) to an Intel 486-based machine running Render Pak, a Truevision Horizon 860 card and a version of

**Pixar's RenderMan. Rendering the image at 3,048 by 2,286 pixels took nine hours; Prater and Kolomyjec created the entire piece in five days, including writing the code for the custom shaders. — By Allison de Laveaga**

# Mac multimedia simulator takes weight off airport security system

**By Erik Holsinger**

San Francisco — Haukom Associates, a developer of interactive media, recently completed work on a new multimedia Mac-based simulator of the CTX 5000, a state-of-the-art explosives detector made by Imatron Industrial Products Inc. of Foster City, Calif.

Haukom was commissioned to create the simulator after Imatron Industrial experienced the pain of shipping the 5,000-pound prototype unit to the Paris Air show.

The Mac simulator shows how the Unix-based CTX 5000 system examines luggage for explosive devices. The simulator demonstrates how, using CAT scan technology, the CTX system converts the luggage contents into 3-D images in which metal objects and explosive materials are displayed on the Mac screen.

Unlike a regular luggage scanner, which requires a human operator to guess at what the contents are inside a piece of luggage, the CTX system can "electronically unpack" a piece of luggage by comparing the CAT scan data with standard molecular density models of the different kinds of explosives — everything from dynamite to plastic explosives.

"The beauty of the system is that it is completely automatic," said Haukom. "If the system detects anything, it automatically sounds an alarm while it is still in the machine."

The development and presentation platform includes a Mac IIfx with 32 Mbytes of RAM and a 1.2-Gbyte La Cie hard disk. The video is played on a Sony 1451 laser-disc player, and it is shown in a window on a 13-inch Apple monitor using a RasterOps 24STV card. A Video F/X editing system was used to edit together the Betacam SP video footage prior to mastering on the laser disc.

During the presentation, an nView Spectra Plus active-matrix LCD panel with a high-intensity 3M overhead projects the Mac images onto a screen. While the current version uses laser-disc video within the simulation, Haukom plans to use RasterOps Corp.'s QuickPac technology to compress the 10 minutes of full-motion video into a QuickTime movie.

The project was completed on a whirlwind schedule; it took eight weeks from initial consultation to completed project. Haukom estimated the total development budget at about $50,000. □

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**New Media** STEVE ROSENTHAL

# The power to read a good book

Keeping old metaphors may be more important than we thought for new media publishing, if the early success of The Voyager Company's Expanded Books series is any indication. Although widely hailed as a breakthrough product line, this new set of books on floppy disks looks to me more like a carefully crafted retreat to familiar virtues.

Admittedly, some of the impetus for these products may come from the association between the Expanded Books and the popular new PowerBook portables. And The Voyager Company had previously earned a sterling reputation in the electronic publishing business.

However, compare for a moment the enthusiastic reception given to the Voyager products with the near-silence accorded to the rollout of more innovative electronic books for the Macintosh from companies such as Eastgate Systems Inc. — or even Apple's own training CDs and electronic reference documents. Maybe Voyager has the right idea.

Maybe when it comes to electronic literature at this stage in history, both the early adopter community and ordinary end users are more comfortable with familiar products than ones on the cutting edge. Rather than a deep interface with hyperlinks, automatic document chaining and a host of navigational choices, it appears most readers want a package they can recognize and use without a great investment in time or mental energy.

And if that's true, the Expanded Books, which use HyperCard to present a simple but attractive on-screen page image with a few extra searching and text-formatting features that can find occurrences of specific words, are a better fit for the times.

Paradoxically, Voyager's willingness to put technology and the company in a secondary role to content may also be a major factor in catapulting the Expanded Books to the front ranks of new media projects. The company has not only picked works from authors of high repute, but they've kept the focus on the work rather than on the delivery vehicle. For example, the box in front of me says "Jurassic Park" in the biggest letters, author "Michael Crichton" next and Voyager Expanded Book a distant third.

*Perhaps at this stage of electronic literature, early adopters and users are more comfortable with familiar products than ones on the cutting edge.*

While Voyager's designers and marketers define their role as secondary to authorship, that doesn't mean they merely sit back and see whether famous names will ring up sales. In new media publishing as well as old, contacts are as important as content in generating the initial commotion that brings the work to the attention of the buying public. I don't think I've been to a relevant show or conference in the past few years at which Voyager's folks weren't speaking or exhibiting.

While companies such as Discis are using a model based on the software industry and pricing their stories at $89.95, Voyager is using a book model at prices less than $20.

Forgetting the importance of price is an occupational hazard for reviewers, early adopters and members of the industry who consider a look at a new product part of the cost of doing business. But in the real world, price matters.

Since Voyager seems to have hit the popular mark, it may seem petty to say that I'm personally ready for a deeper product. If I'm going to use the computer instead of a book, I want something like a full menus option with Boolean and proximity searches. I want to be able to set the book for constant marginal display of notes, just the way they're shown in the printed "Annotated Alice." And the series has plenty of other limitations, as Ric Ford pointed out in MacInTouch (see MacWEEK, Jan. 27).

But in the end, maybe what we need most right now is not a cutting-edge product with all sorts of special features. What we have here is an attractive and fairly priced product that people are willing to buy and use. In my book, that's quite a respectable achievement. □

*Send tips and comments to Steve Rosenthal, c/o MacWEEK, 301 Howard St., 15th Floor, San Francisco, Calif. 94105; AppleLink: Steve.R; MCI: 114-8611.*

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EDITORIAL

# Mac power to the people

Last week's landmark Mac price cuts were brought to you, in part, by the continuing allegiance of Mac power users.

Manufacturing economies resulting from Apple's growing ship rates helped make the price reductions possible. But they also were underwritten by margins that didn't decline as much as feared in the past fiscal quarter.

The windfall came from unexpectedly strong sales of Apple's new high-end products. Sales of the PowerBook 170 and the Quadra 700 and 900 reportedly were as much as double what Apple's market analysts had predicted.

In fact, while the company is selling all the 170s and Quadras it can build, some resellers report that the latest low-end Macs, the Classic II and PowerBook 100, are beginning to gather dust on the loading docks.

Considering that the economy remains mired in recession, that the Christmas selling season usually means big sales of cheaper products and that Apple has invested much of its marketing muscle on its low-cost models, a high-end sales landslide can mean only one thing: The power user is alive and well and still buying Macintosh.

Historically, Apple has always underestimated the Mac's appeal to power users. Because ease of use is central to the Mac's design, the assumption — among some Apple officials, apparently, as well as many DOS-oriented pundits — has been that the Mac should appeal to novices more than to experts.

Yet Mac users have always gravitated toward more powerful systems, perhaps because the platform has spawned innovative software that has always pushed Apple's hardware to its limits.

Apple should keep this in mind as it courts the low-end computer and consumer-products markets. It's innovation at the high end that ultimately "trickles down" into winning low-end products.

No user is going to complain about getting more Mac for the money, but good deals should not come at the expense of pushing the envelope on performance.

As last quarter's sales indicate, more horsepower is what many Mac customers still want. □

## 4 years ago in MacWEEK

**Feb. 9, 1988:** Industry giant Ashton-Tate Corp. is preparing to jump into the Mac market with the FullWrite Professional word processor and the Full Impact spreadsheet.

**In retrospect:** Since its outright acquisition of Ashton-Tate last year, Borland International Inc. has been remarkably quiet about the future of these two products.

# Letters

## Air Force Desktop IV procurement pondered

I had to chuckle when I read Jim Kerrigan's comments about the U.S. Air Force's award for the Desktop IV procurement (MacWEEK, Jan. 13). Something must be wrong when the Air Force awards the contract to the companies who met the performance criteria. Yeah, right. It makes me wonder about the entire process.

*Mark Rippy, network manager*
*Lathrop High*
*Fairbanks, Alaska*

## Consultants must stay in constant contact

The Acacia Group (MacWEEK, Jan. 13) misses the important issue of the problems of communication and change within our industry.

The central issue is one of communication. In the face of constant technological advances, change in the face of consumer demand and an extremely dynamic marketplace, better communication benefits all of us. Apple and most other computer companies make herculean efforts to communicate with consultants and consumers, but there remains significant room for improvement. Continuing requests for improvement in the dissemination of accurate prepurchase product information are reasonable and responsible.

It concerns me that anyone in our industry would proclaim that a preview to a group so large that "you could count the number of attendees on one hand" is a success. It alarms me that professional consultants make "recommendations to some rather large companies" after less than a day of shared access to some rather pricey hardware.

Just as the Macintosh Consultants Network does not speak for all consultants, neither do Kozuch and Bisaha.

By making the statement that Barcot's concerns "don't represent us or most of our associates," do the members of the Acacia group really mean to imply that they do speak for "most" consultants? By going from the specific objection to a letter from Larry Barcot to the generalization that all MCN members don't pay "attention to their mail from Apple" or "do their own diligent research" is a vituperative statement that needs no further comment.

I hope that consultants (both MCN members and non-members) continue to work with Apple and other hardware and software vendors to improve communication. I'm certain that a cooperative effort will benefit everyone in the industry and allow us to provide better solutions to our clients.

*Gary Connor, executive director*
*Macintosh Consultants Network*
*Modesto, Calif.*

*Send letters to MacWEEK, 301 Howard St., 15th Floor, San Francisco, Calif. 94105. MCI 323-1203; fax (415) 243-3650. Include your name, address and phone number. Letters should not exceed 300 words. We reserve the right to edit for clarity and length.*

## Wingz is neither gone nor forgotten in this lab

I appreciated the depth of the review of Lotus 1-2-3 for Macintosh (MacWEEK, Jan. 13) and the fair comparison to its competitors.

However, one very important competitor, Informix Software Inc.'s Wingz for the Macintosh, was omitted.

Even though advertising recently has been non-existent for this product, it has a group of very dedicated followers.

Let me explain why. Compared with all other spreadsheets, Wingz has the largest number of built-in mathematical and scientific functions, and by far the best charting capabilities.

Add to that the powerful scripting language and above-average speed

GORDON STUBER

performance, and you end up with the best spreadsheet for the serious power user who prefers a spreadsheet that can fulfill even the most difficult task to one that boasts in-cell editing and 3-D spreadsheets but misses important functions.

The decision to sell/license its engine to Claris Corp., which used the technology to make a spreadsheet "for the rest of us" out of a product so well-suited for the scientific world was a blow to the power user. I cannot count the programming hours I've saved by using Wingz and Mathematica. Wingz is considered suitable for even the most difficult research tasks here at the university.

*Robert Ziegler, Leoben Mining University Mac Services, Austria*

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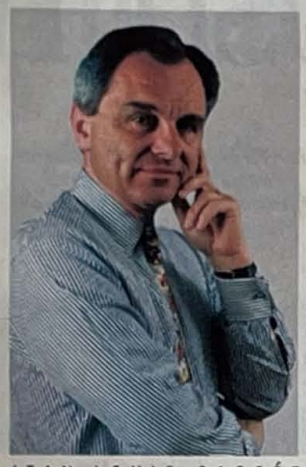
BPA

**Commentary**

# Getting the Word on Microsoft's intentions



JEAN-LOUIS GASSÉE

Microsoft Word is a good tool to write with. It also is a prism that sheds light on some interesting aspects of our industry.

Take the recent upgrades to Word 5 on the Macintosh and to Word 2.0 for Windows, for instance. They reveal a great deal about Microsoft Corp. and its intentions.

**Upgrade insights.** Let's start with obtaining the upgrades.

The automated attendant who answers the 800 number directs me to press 4 for direct sales. After the first ring, a human answers. I state my business: upgrading to Word 5 for my Mac. Do I have the cover page from my manual or a program disk? Well, no, my 4.0 disks and manuals are buried in cardboard boxes, but I happen to have a vintage 1.05 disk handy. Would that work? Sure. The computer already knows me as a Visual Basic user, my name is spelled correctly — almost. And the address is right.

One credit card authorization later, I have a sales-order number. Five business days later, as promised, the package arrived. Great service.

As I also use machines of the other persuasion, I wanted to upgrade my Word 1.1 for Windows, too. Instant gratification this time. The friendly next-door retailer sells the Windows upgrade (and "sidegrade," from the likes of WordPerfect) for the same $129 (not discounted) as the Mac version.

For the Mac market, Microsoft has decided, no competitive sidegrade is necessary. Nor is the upgrade available in the retail channel.

**Moving in on WordPerfect.** Obviously, Microsoft believes there is a need to be more aggressive on the Windows side. I should say on the WordPerfect side. For newly converted ex-WordPerfect users, a special on-line tutorial gives live demos of the WinWord equivalent of each WordPerfect function. This is not the first time: Excel 3.0 also offers live help for Lotus 1-2-3 users who have seen the writing on the windows.

WordPerfect used to be the king of DOS word processing, and Microsoft clearly intends to do unto WordPerfect Corp. what it is presently doing to Lotus Development Corp. In both cases, Microsoft gets help from the victim: unimpressive Windows versions of the aging DOS champions.

But dethroning WordPerfect is not Word 2.0's only goal. There is meaning in it for the Mac as well.

**Word 2.0 better than 5.0.?** In the good old days, DOS/Windows products sometimes claimed more robust features than their Mac counterparts but not the better user interface — that was for the Mac version. With Word 2.0, the Windows version is better on both counts: better feature set *and* easier to use. Just compare the "ribbons" — the Windows one is better-looking and offers more tools. And the Windows product has better direct manipulation (printing, spelling, creating tables, etc.).

Not that Word 5.0 is a bad product. On the contrary. While it brings few radically new features, access to many functions has been smoothed out, and for users coming from the previous release, the new one is generally pleasant to use. The Print Merge now comes with a nice step-by-step Helper, for instance. Keystrokes are more consistent with official or de facto Mac standards. And like Excel 3.0, Word 5.0 uses System 7 well.

But there's no WordBasic scripting, yet. And it's slow: It takes longer to boot on a IIci than the Windows version does on the 386 portable I'm using right this minute.

So, you can see the pitch coming: "Look, we offer interoperability at the data and user level. With DOS Mounter software on your Mac, you can double-click on your Windows documents. Even the documentation is organized in exactly the same order. Red for the Mac, Blue for Windows. And you can see where the two versions differ.

"Yes, for the moment Windows does not have a Finder. Putting things together might require a little extra effort, initially. But once you are inside the application, decide for yourself."

You can see the strategy. The Mac *used to* have the nicer applications.

And why not, in Windows 3.x, a live Mac On-Line Help mimicking the installation of system extensions? □

**The Mac Manager**

# The office melting pot: IS and the corporate culture

DON CRABB

This month Time magazine ran an intriguing essay by Robert Hughes, called "The Fraying of America." In his essay, Hughes argued that many American social problems can be traced to the big lie of the American Melting Pot.

Hughes maintains that our nation's problems largely stem from the "idea of America" (that race, color and creed really don't matter) and its socioeconomic consequences. This fraying, he said, has led to the falling out of groups that never were all that close to begin with. Hughes' argument goes much further than my reduction. But its core premise poses some interesting issues for IS managers.

**IS' melted pot.** Most IS shops are pretty big affairs that employ lots of folks. And despite the stereotype of the IS professional as a WASP male engineer wearing a shiny suit and pocket protector, the ethnic and gender diversity within IS departments has increased dramatically over the past 10 years. (I personally attribute this phenomenon to the evolution of many IS functions away from the temples of ISdom — mainframes — onto the desktop.)

Now try to extrapolate Hughes' contentions about *Society* down to our own IS societies. Naturally, we would expect to see the same fraying of interactions and relationships, pretty much along gender, ethnic or cultural lines.

But for the most part we don't. The rancor and dissent that Hughes finds in American society are largely absent from our own IS shops. Why is this? Are our IS shops so multicultural the pot is completely melted? Or perhaps it's the other way around — that IS is still the domain of the ubiquitous WASP male.

**IS and multiculturalism.** Yet, I can't help but feel that something more basic is at work here: the fundamental cultural leveling that computing technology provides. And I think much of this democratization stems from IS' broader use of the Mac, with its emphasis on tools and solutions instead of on methods and arcana.

The Mac, if anything, is a pretty egalitarian computer system. You don't have to be an old-style IS high priest to use it, yet it's no toy pretending to be a real computer.

The best IS managers I know figured this out some years back. In fact, they have made the Mac the focal point in their efforts to foster the appreciation of multiculturalism among their staff.

In effect, these managers have been using the technology that defines the IS workplace to help break down individual biases, prejudices and silliness. I think it's a brilliant strategy.

**Corporate culture.** Don't get me wrong here. I'm not saying that everything in IS shops (or even in local Mac installations) is peachy keen. As with any organization with very smart people, IS departments contain their share of internal politics and jockeying for position.

But I do find that IS folks of all technical stripes — be it Mac, mainframe or DOS — are a lot more tolerant of the individual biases of their colleagues as long as those individuals follow the corporate culture. Probably more than any other department, IS and its related groups live and die by the corporate culture.

Indeed, the very mission of IS — to provide timely and accurate data and the right tools to analyze them — practically defines a company's existence.

This coherence, I think, is another reason IS ranks subjectively lower on the "fraying" scale than most other corporate departments.

That doesn't mean we can become complacent. Many women and minorities are still at a disadvantage on the corporate ladder. But at least IS shops have a head start in eliminating such glass ceilings. We can be proud of our achievements as we recognize the work still ahead. □

**MacTOON**

*"The first network Goldilocks tried was too slow, the second was down, but the third one was just right."*

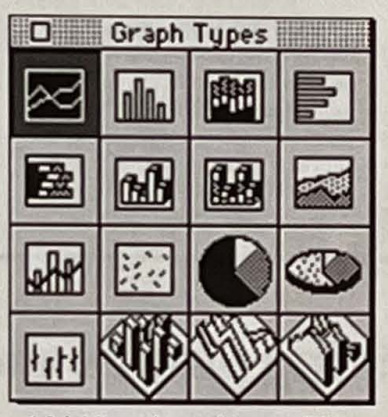
# Only one spread and all Macintosh. Ri

One look and Apple Chairman and CEO John Sculley called it "a spectacular product."* And that's just for starters.

This isn't just another version of Lotus® 1-2-3®, it's a spreadsheet that really grabs hold of the full computing power of Macintosh®. So, everything you've come to love about Mac® computing is now available in 1-2-3.

## A full-fledged, no-holds-barred Mac spreadsheet

Because it was designed and built just for Macintosh, Mac users will feel right at home with the menus, tools and the entire working environment of 1-2-3 for Macintosh. It includes features that push the capabilities of System 7 and everything that comes with it to the limit. Like Publish and Subscribe, Apple Events and Data Access Manager, to name a few.




*1-2-3 delivers the graphing capability Macintosh was made for. Select from hundreds of variations with a palette full of 3-D, pie, bar, area and scatter graphs.*

Its innovative "user interface" makes working with data, text and graphics not only fast and easy, but fun. Like In-Cell Editing, which lets you double click on a cell and then type and edit directly in it. Or the Unified Work Environment, which allows you to manipulate data,

aaaaa

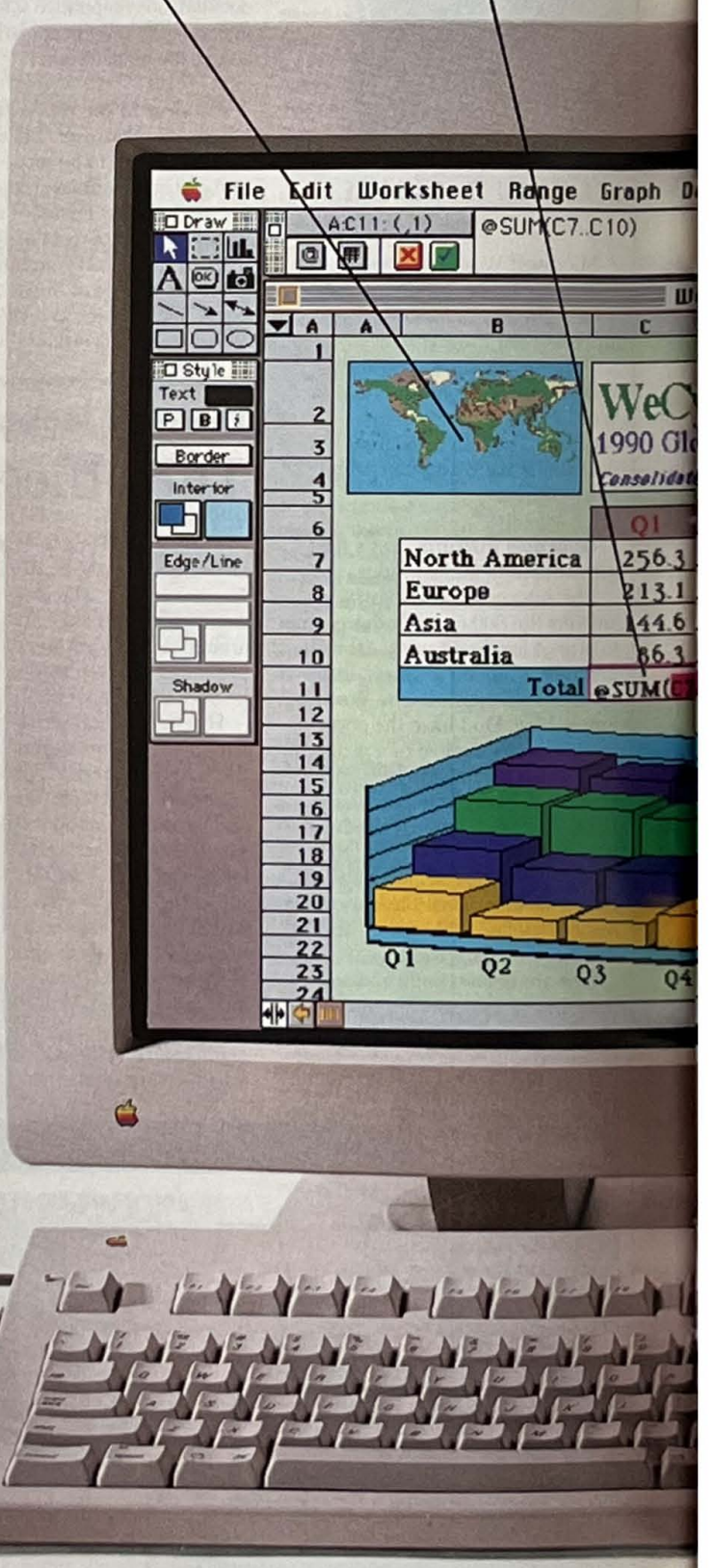
***Output That Stands Out***—*Bring your presentations and reports to life with an array of colors, borders, Adobe® type styles, and images.* ATM

text and graphics all in the same file with one set of menus. Change the color of your data the same way you change the color of your graphics. And directly manipulate data, graphs, drawn objects and scanned images.

1-2-3 for Macintosh delivers the graphing capabilities Macintosh was made for in a way that's incredibly flexible. You get superior publishing and graphing functions including a rich variety of

***Be manipulative***—*Command your worksheet with direct manipulation and formatting of all data, graphs and drawn objects.*

***In-cell vs. Excel***—*Enter data or formulas directly into a cell, bypassing the console if you choose. Sounds simple because it is.*

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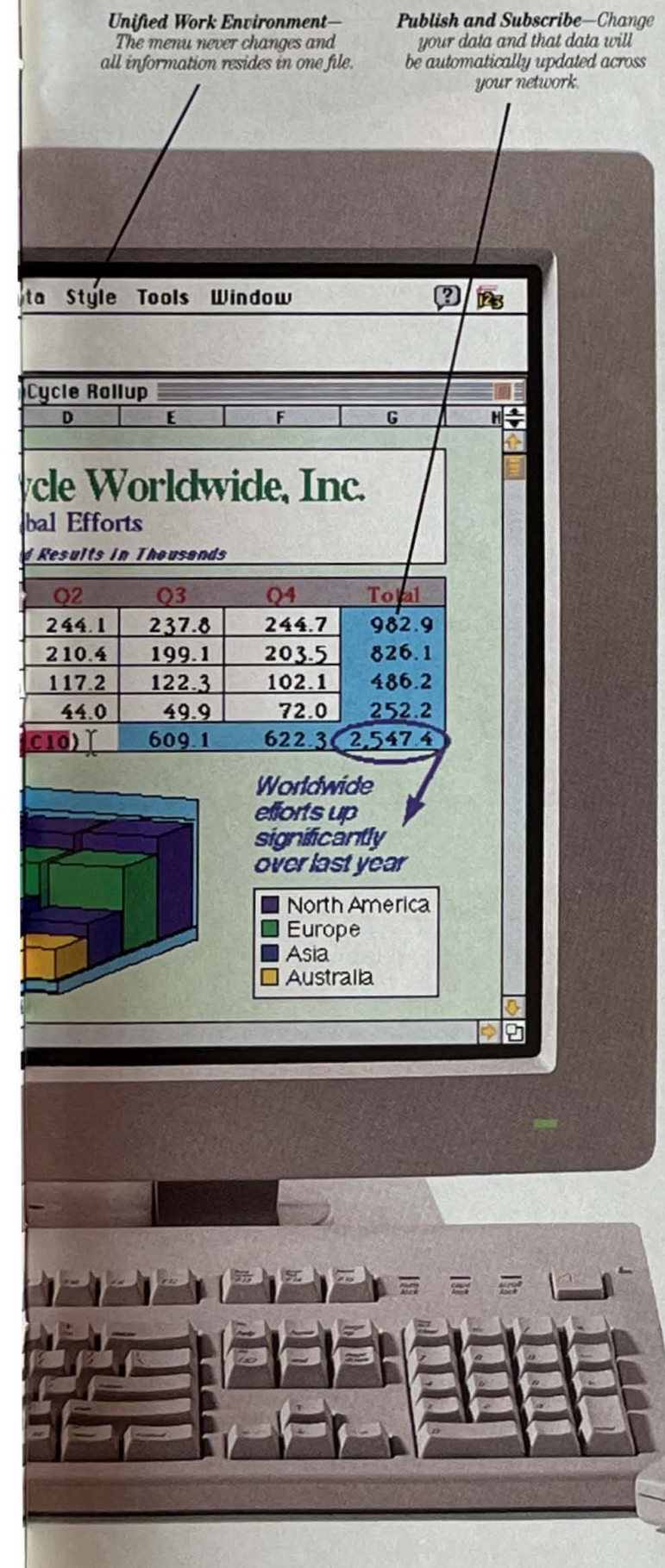
# sheet is all 1-2-3 ght down to the core.


Unified Work Environment—
The menu never changes and all information resides in one file.
Publish and Subscribe—Change your data and that data will be automatically updated across your network.
ta Style Tools Window
Cycle Rollup
D E F G H
cle Worldwide, Inc.
bal Efforts
Results in Thousands
Q2 Q3 Q4 Total
244.1 237.8 244.7 982.9
210.4 199.1 203.5 826.1
117.2 122.3 102.1 486.2
44.0 49.9 72.0 252.2
C10) 609.1 622.3 2,547.4
Worldwide efforts up significantly over last year
North America
Europe
Asia
Australia

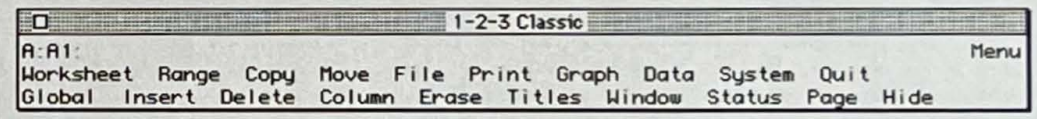
fonts and color choices. And with print preview, you see exactly what your output will look like, instantly, so you avoid surprises at the printer.

## True 1-2-3 Compatibility

1-2-3 for Macintosh is compatible with other versions of 1-2-3, giving you direct access to the spreadsheet used by over 15 million people. It even reads and writes Microsoft® Excel files. So you can make the switch to 1-2-3 and never look back. And never look better.

It's one of your favorite System 7 features, so why shouldn't Balloon Help™ be part of 1-2-3? No matter where you are on the screen or what function you're in, detailed instructions are just a click away.

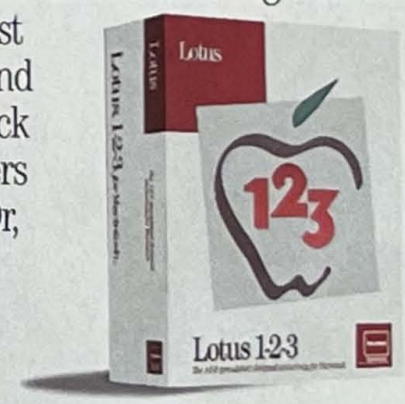
Nothing delivers on the capabilities of Macintosh like 1-2-3. Maybe that's why the world's best selling spreadsheet is the world's best choice for Macintosh.


1-2-3 Classic
A:A1:
Menu
Worksheet Range Copy Move File Print Graph Data System Quit
Global Insert Delete Column Erase Titles Window Status Page Hide

*Press the slash key and the 1-2-3 Classic® menu appears on your screen. If you're coming from the DOS environment, this will make it easier for you to access familiar Lotus commands and run macros already written for 1-2-3.*

## So what are you waiting for?

See 1-2-3 for Macintosh for yourself. Lotus is offering a no-risk proposition for 1-2-3 for Macintosh. Just buy a copy from your favorite dealer and try it for 60 days with a full money-back guarantee direct from Lotus (Excel users can even upgrade at a special price). Or, call us today for a free demo video at **1-800-TRADEUP, ext. 6432.**

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# Reviews

▸ Comparison of backup software: DiskFit Pro, Redux, Total Recall, SurfGuard, FastBack Plus, Retrospect Remote and NetStream. See Page 44.

## Bringing presentations to life on Mac

*Two new programs are aimed at simplifying the process of animation: Vividus' Cinemation and Magic from MacroMind-Paracomp.*

**By Phillip Robinson**

Animation is one of the most obvious places where multimedia can add zip and spirit to presentations and help move messages.

Existing animation packages for the Mac, such as MacroMind-Paracomp Inc.'s Director and FilmMaker, however, aren't suitable for creating quick and easy presentations. They require too much learning time and offer a bewildering array of features. What is needed instead is the computer equivalent of one smart artist with an understanding of business.

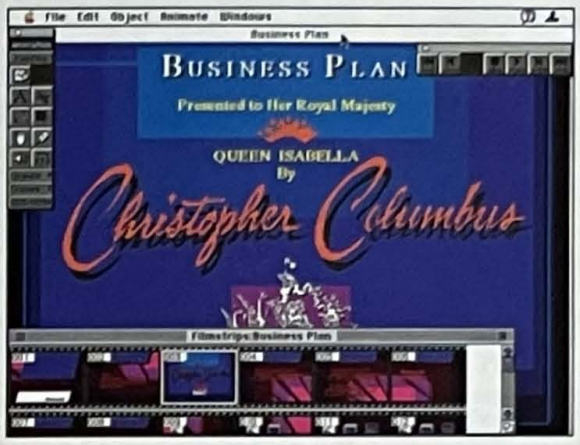
Two new programs are aimed at simplifying animation: Cinemation, a $495 application from Vividus Corp. (a new company formed by a former Apple multimedia and presentations marketing manager), and Magic, a $395 application from the multimedia agglomeration MacroMind-Paracomp. Both applications offer painting and drawing tools; basic VCR-style animation controls; templates to automate the creation of simple presentations; options for adding interactivity to presentations; and a collection of clip media — graphics, animations and sounds.

Both programs succeed at making business animations practical, even for the artistically impaired. With just a bit of work you can build multimedia presentations from scratch or add animation to a Macintosh presentation from a program such as Microsoft PowerPoint or Aldus Persuasion. After seeing what a bit of motion and sound can do for any presentation you'll have a hard time living without them.

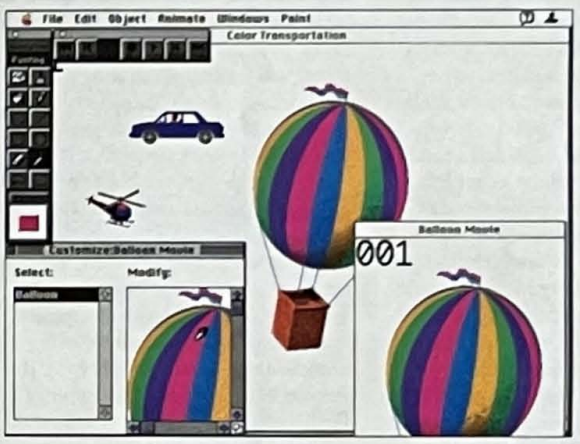
While both claim to require a Mac Classic or greater and 2 Mbytes or more of RAM, realistically plan on 4 Mbytes or more for developing color presentations, and expect painfully slow performance until you reach the Mac IIci level. However, both applications offer schemes for compressing and accelerating finished presentations, so a simple black-and-white presentation with few scenes and objects and little or no sound can be expected to play reasonably well even on a Classic.

Neither program is a general-purpose multimedia control center. While both can animate graphics, neither can do anything more with video or sound clips than play them, and MacroMind-Paracomp has yet

*See Animation, next page*




Cinemation can import presentations from PowerPoint or Persuasion and automatically select and move elements within the presentation's slides.




Cinemation features a full 24-bit paint program and the capability of nesting movies within movies, such as animating the balloon on its own, and then making it part of a larger animation.

**SCORE CARD**

**Animation presentation software**

MacWEEK

| Categories | Cinemation | Magic |
|---|---|---|
| Overall value | ● | ● |
| Performance | ● | ● |
| Features | ● | ● |
| Ease of use | ● | ● |
| Documentation/support | ● | ● |
| List price | $495 | $395 |

● Excellent ● Very good ● Good
● Average ○ Below average

**ON BALANCE**

**Animation presentation software**

MacWEEK

Two new programs attempt to achieve simplicity in the creation of animated interactive presentations with sound and video. While they both run on low-end Macs, a 68030 Mac and 4 Mbytes of RAM are realistic minimums for creating presentations.

▸ **Cinemation** from Vividus Corp. can animate Microsoft PowerPoint and Aldus Persuasion files. It simplifies the creation of complex animations and interactive presentations and offers a well-paved road to more dynamic presentations. It has a vague policy for commercial distribution of movies, though non-commercial distribution is free. Cinemation is a logical choice for more serious animators.

▸ **Magic** from MacroMind-Paracomp Inc. lacks a number of features found in Cinemation, but it offers a simple approach to animation and interactivity; a QuickPICS player and royalty-free distribution of animations; and a batch of animated templates for business tasks. It is a good choice for casual users.

## FreeHand upgrade is sensitive to pressure

*System 7 support and setting TrueType on a path lead improvements to illustration application.*

**By Bruce Fraser**

Aldus FreeHand 3.1, part of Aldus Corp.'s current upgrade blitzkrieg, is a modest but worthwhile upgrade to the popular PostScript illustration program.

Still priced at $595, Version 3.1 is fully System 7-savvy, with balloon help, complete TrueType support (including converting TrueType text to editable paths) and support for publish and subscribe. It also contains some significant printing enhancements, particularly in illustrations that have TIFF images.

But the most radical new feature is a pressure-sensitive Freehand tool that brings a new level of spontaneity and freedom to PostScript illustration when used with a pressure-sensitive stylus on a digitizer tablet from Wacom Inc. or CalComp Inc.

**The pressure's on.** Using the pressure-sensitive Freehand tool is straightforward: A dialog box lets you set the maximum and minimum stroke width that the tool can produce. Then, if you have a pressure-sensitive stylus, you can simply draw freehand — the screen update is fast enough to give good feedback as to how much pressure is needed to produce a particular stroke width.

You also can use the tool with the mouse, using the arrow keys to vary the pressure, but you don't get the same fluidity of motion as with a stylus. When you finish drawing, FreeHand creates an editable PostScript path that looks for all the world like a hand-drawn line.

Of course, you also can tweak the control points or change the fill and line settings to further refine the path, but the freedom of drawing with the stylus is what makes this feature special, particularly to those for whom drawing with a mouse is like drawing with a bar of soap.

FreeHand 3.1 can both publish in

*See FreeHand, next page*

**SCORE CARD**

**FreeHand 3.1**

MacWEEK

| | |
|---|---|
| Overall value | ● |
| Performance | ● |
| Features | ● |
| Ease of use | ● |
| Documentation/support | ● |
| List price | $595* |

● Excellent ● Very good ● Good
● Average ○ Below average

*Upgrades $50 for owners of Version 3.0; $150 for users of versions previous to 3.0

**ON BALANCE**

**FreeHand 3.1**
Aldus Corp.

MacWEEK

FreeHand 3.1 is a modest upgrade that adds full support for System 7, including Apple events and publish and subscribe. It also offers several performance enhancements, such as faster printing and improved control over substitution of missing fonts. The one truly outstanding new feature is a pressure-sensitive drawing tool that brings an entirely new level of spontaneity and freedom to PostScript illustration, especially when used with a pressure-sensitive stylus and digitizing tablet.

## Animation

*From previous page*

to ship Magic with QuickTime support, though it promises to in an upcoming release.

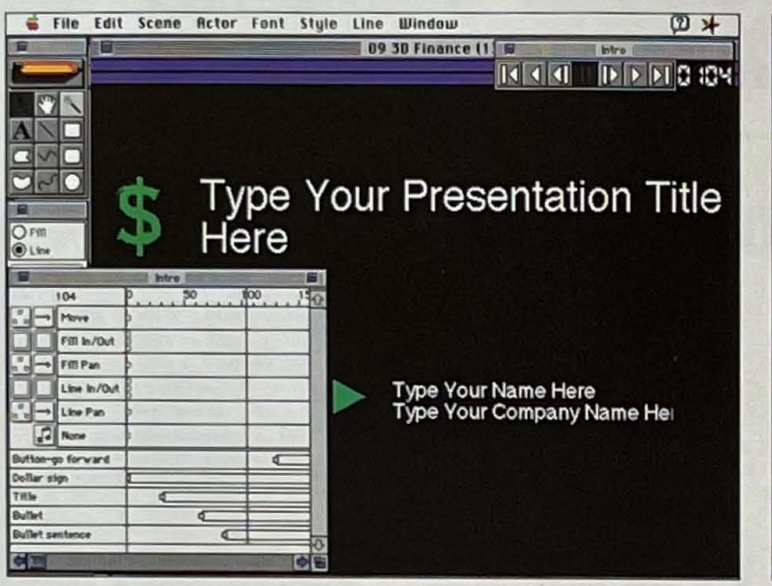
**Template animation.** The fastest way to get started with either program is to use templates. Cinemation can import into its templates either PowerPoint or Persuasion image sequences saved as Scrapbook files. Its AutoMotion feature automatically applies movements to those images, such as sweeping the bullet points in from the side or dissolving from one image to the next. These templates also include sound clips, synchronized to the beginning of each transition. We found the promise of AutoMotion seductive but had some difficulty breaking example images down into the independent elements necessary for animation.

Magic offers templates, too, although they do not automatically work with PowerPoint or Persuasion files. Instead, templates are prebuilt presentations, complete with moving titles, bullets, paragraphs and graphics, ready for substitution of your own words and pictures. Magic has very little support for existing files from other applications. In fact, it imports only PICT and PICS files as backgrounds, Actors and fills. Most simple presentations, however, do not require a large number of slides, and we had no trouble typing our own information over the place holders in the templates and playing the result. In some cases, this was actually faster than using Cinemation's Import and AutoMotion functions.

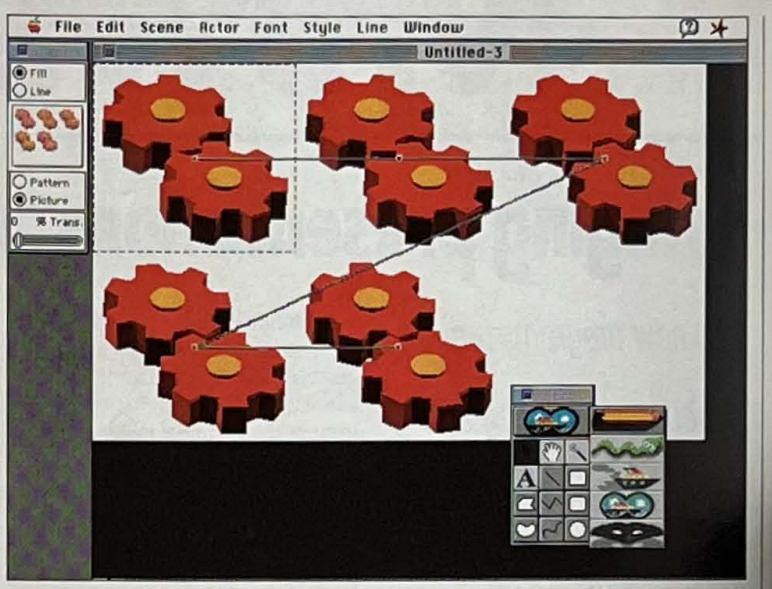
**Cinemation basics.** Cinemation contains a 24-bit paint program, with snapping for alignment, zooming and automatic color optimization of imported files. This is more than adequate for the sorts of charts you'll build in business presentations, and it even offers features that will aid in artistic animation. For example, Cinemation includes a Ghosting option that lets you copy, move and edit an object while viewing the previous version (also called onion-skinning). And because you'll often put the same object in a series of images for animation, a Customize window can change an object every place it appears in a movie, with just a single edit, saving you from locating and editing it in each successive frame.

Cinemation also has a very simple Record command for creating the successive frames of an animation. Draw an object, click on Record, then draw some more or drag drawn objects to new positions, record another frame and so on. The VCR-style control window lets you step through frames or play them back.

If you don't want to draw every frame, you can set the start and end points for moving, scaling, cropping (seeing only a certain portion of an object) and rotating any object. Cinemation's Fill-In-Motion command will figure out all the in-between shapes and positions (called tweening) and put them into successive frames.




**Magic offers many animated templates such as this one. Users fill in their own text and graphics. The Cue palette at lower left gives users direct control of transitions and Actors within an animation.**




**Here Magic's Pan mode displays the successive states of an animated object. Each frame can be modified individually, allowing users to customize an object's motion.**

Many animation packages, including Magic, can tween motion and scaling. But few offer Cinemation's cropping and rotation tweens. You can draw a path for an object to follow. Inertia control lets you simulate gravity and acceleration for moving objects. Between the simplicity of the Record command and the power of the Tweening command, Cinemation is hard to beat for animation tools.

**Making Magic.** MacroMind-Paracomp likens Magic to Claris Corp.'s MacDraw with animation — a simple drawing package that also can animate objects and attach sounds and interactivity to them. The program offers six modes: Draw, Shape, Move, Pan, Mask and Run.

Draw lets you create Actors (objects that you'll animate), Backgrounds and Costumes (color and pattern fills for Actors). The drawing is all built on Bezier curves for smooth lines. You may select a single object and in the Shape mode change that object's curve. The Move mode lets you draw curved or straight paths for objects to follow. Draw the path, and Magic automatically creates the intermediate positions of the Actor that follows that path.

Pan mode lets you move a background against an Actor (called keyholing). Mask mode can mask off unwanted areas of an image, either drawn or imported, such as a background portion that doesn't match the overall background. The Magic Wand can select areas of the same color, finding edges in the image to simplify keyholing. The Run mode plays a presentation, with transition effects and sounds.

As solid as these path-animating features are, Magic doesn't offer the rotation tweening, cropping or scaling found in Cinemation. Magic doesn't have a ghosting feature for viewing successive stages of an object.

MacroMind-Paracomp does, however, throw in SwivelArt, its 3-D clip-art package, which has lots of dandy arrows, buttons and other 3-D stuff you won't find in

*See Animation, Page 42*

## FreeHand

*From previous page*

and subscribe to PICT or Encapsulated PostScript formats, though EPS is definitely the preferred format, since the PICT format cannot represent all of FreeHand's capabilities. With edition files to which a FreeHand document subscribes, you also can open the publisher document in the publishing application directly from FreeHand, using the Open Publisher command.

The new FreeHand also boasts a hot link to Aldus PageMaker 4.2. While PageMaker still can't read native FreeHand files, it can instruct FreeHand 3.1 to open the FreeHand-format file that corresponds to a placed FreeHand-generated EPS graphic. Once you have edited the FreeHand file, FreeHand automatically exports the EPS version back to PageMaker, where it is automatically updated, all thanks to the magic of Apple events.

Font handling also is the subject of a welcome improvement. Now, instead of blithely substituting Courier whenever a document contains a font that isn't in the current system, FreeHand warns you and gives you the opportunity to substitute the font of your choice for each missing font.

This is particularly valuable when dealing with documents generated in the Microsoft Windows-based version of FreeHand, since the fonts are named differently on the two platforms.

FreeHand 3.1 is file-compatible with FreeHand 3.0 for Windows.

**Added improvements.** In previous versions, when elements were grouped or combined into a clipping path, they were transferred to the current drawing layer, and information about their previous location was lost, so if you subsequently ungrouped the elements or cut the contents from a clipping path, they would stay on the current layer. The new version has an option that will return those to their original layer.

FreeHand's palettes now can be displayed using 9-point Geneva instead of 12-point Chicago, allowing more items to be displayed in the same amount of space. And new shortcuts let you toggle between multilayer and single-layer operation, edit style attributes, and export a group of colors as a color library.

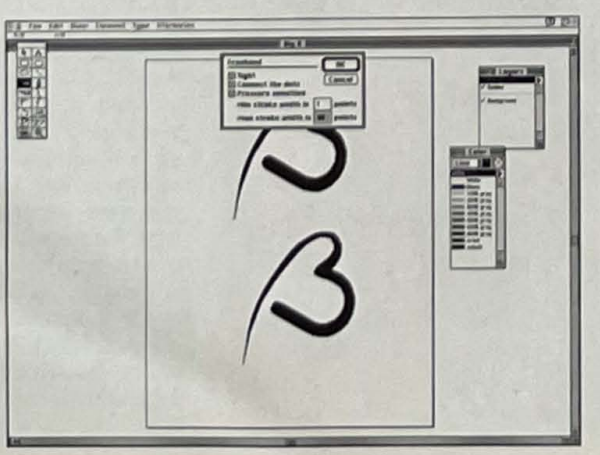
Printing has been significantly enhanced. You now can set a global flatness value from the Print options dialog box instead of having to edit the UserPrep document, and handling of TIFF images is much improved. FreeHand now uses faster binary encoding for TIFF image data, and sends only TIFF data that is visible in the image to the printer. Formerly, when a TIFF image was placed inside a clipping path, FreeHand still sent the entire image to the printer, so the new version is noticeably faster at printing. Version 3.1 also supports CMYK (cyan, magenta, yellow, black) TIFF images and features faster conversion of standard RGB (red, green, blue) TIFF images to CMYK data at print time.

**Conclusions.** In all, FreeHand 3.1 is a very worthwhile upgrade. The enhancements are all useful, and the new level of integration with PageMaker is impressive, but the pressure-sensitive Freehand tool is what makes it special.

Its main competitor, Adobe Illustrator 3.2, still leads in handling large amounts of text and in producing graphs directly from numerical data; however, it has nothing resembling the pressure-sensitive tool, handles font substitutions much less elegantly than the new FreeHand and cannot work with TIFF files at all. Nor can it sublaunch the originating application of an edition to which it subscribes.

Personal preference is almost as important as raw features in the FreeHand vs. Illustrator choice, and many artists find they use both as the project demands, but FreeHand's new features, combined with its previous strengths in layering and printing controls, make it more than ever a formidable competitor to Illustrator.

Aldus Corp. is at 411 First Ave. S., Seattle, Wash. 98104-2871. Phone (206) 622-5500; fax (206) 343-4240. □



**The outstanding new feature in Aldus FreeHand 3.1 is a pressure-sensitive Freehand drawing tool that converts a pen stroke to a variable-width PostScript path. The script "B" characters seen here were produced with a single stroke.**

**SYSTEM 7 COMPATIBILITY**

| FreeHand 3.1 | |
|---|---|
| Balloon help | Yes |
| TrueType | Yes |
| Publish and subscribe | Yes |
| Apple events | Yes |
| 32-bit addressing* | Yes |

**According to vendor.*

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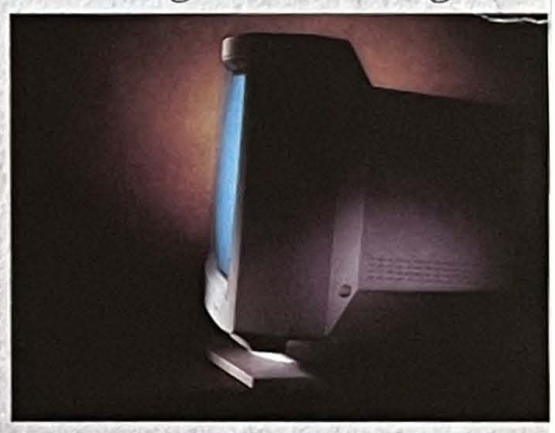

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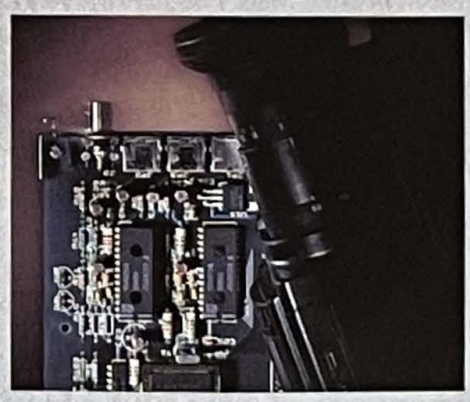

*QuickImage 24 full color video capture card lets you capture images for desktop publishing or produce QuickTime™ movies.*

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## Animation

*From Page 40*

Cinemation. And it does offer a more easily grasped interface.

**Building movies.** As you build a Cinemation movie, you can view and edit it in the FilmStrip window (which has a storyboard of thumbnails of the successive frames) and connect it to other movies with the Organize window. Hiding the FilmStrip window most of the time speeds operations considerably.

Cinemation is very slow to redraw all those thumbnails, even on a IIfx with lots of RAM.

A unique feature in Cinemation is Movie-within-a-Movie, which lets you nest one animation within another, to any level. This can greatly simplify the construction of complex motions, such as putting flapping wings on a bird that flies across the screen. Cinemation also offers transitions to play with (including wipes, dissolves, fades, reveals and blinds) and sounds to import and synchronize.

When editing an animation in Magic, the Cue palette offers control you won't find in Cinemation.

This graphic chart of fills, lines, Actors and sounds vs. time for a single "scene" is open to direct manipulation: You can place start, end, ramp up and ramp down markers by dragging them around with the mouse. Then you can use the Order command to view more than one scene, as thumbnails you place in sequences. This time control is quite intuitive; this kind of control belongs in every animation program.

**Interactivity and distribution.** Both programs promise that adding interactivity is as simple as a matter of quick clicks in a dialog box or two.

For interactivity in Magic you may make any selected actor into a button and use the Link palette to specify a number of responses to clicking that button: beep, highlight or move to another frame or scene.

You may make any use you like of Magic animations. To play distributed files, you can use the accompanying QuickPICS program, which compresses files from Magic (and from other PICS exporting programs, such as FilmMaker) and plays them back at faster speed with minimum RAM (it spools them from disk).

Within a Cinemation movie, you can turn any object into a button to branch to other frames, movies, QuickTime videos or sounds. Or you can use the Movie Window external command (XCMD) for playback and control through HyperCard. If you want to distribute your Cinemation movies for non-commercial use, there's a CinePlayer program included that you can copy for free. For commercial distribution, however, you must contact Vividus and strike a royalty deal.

**Conclusions.** Magic's documentation, while covering the bases clearly, is somewhat Spartan. We would like more in-depth tutorials and examples. The program comes with a single tutorial disk and a few disks of clip media. Cinemation, meanwhile, has a very extensive manual with several disk-based tutorials and eight disks worth of clip media and templates.

Both programs will move your presentations, but Cinemation has a few steps on Magic. Magic offers the simplest templates for quick use, a QuickPICS player, free distribution of animations and some unique features such as keyholing. MacroMind-Paracomp promises a QuickTime version soon. Cinemation, meanwhile, boasts a complete paint module, more potent tweening, movies within movies, animation of existing presentations and QuickTime support.

Users interested in moving into more serious animation, or those willing to trade learning time for flexibility, will find Cinemation worth the extra cost. On the other hand, for users looking for a lower-cost solution, who only hope to add a little movement to simple presentations, Magic is the answer. □

**SYSTEM 7 COMPATIBILITY**

| Features | Cinemation | Magic |
|---|---|---|
| Balloon help | No | No |
| TrueType | Yes | Yes |
| Publish and subscribe | No | No |
| Apple events | No | No |
| 32-bit addressing* | Yes | Yes |

**According to vendor.*

## Product Info

MACROMIND-PARACOMP INC.
**Magic:** $395
410 Townsend St., Suite 408, San Francisco, Calif. 94107
Phone (415) 442-0200; fax (415) 442-0190

VIVIDUS CORP.
**Cinemation:** $495
651 Kendall Ave., Palo Alto, Calif. 94306
Phone (415) 494-2111; fax (415) 494-2221

Application
MacWrite II
Claris Resolve
FileMaker Pro
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ClarisWorks
MacProject II
Claris CAD
SmartForm Series
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MacPaint
Story
How FileMaker Pro makes one man seem like a cast of thousands.
FileMaker Pro
Jay Nathanson wears a lot of hats. His company—Target Marketing of Richmond, Virginia—is one of the fastest growing small businesses on the East Coast. Ask Jay to explain his success and he'll give you an uncharacteristically succinct response: FileMaker® Pro.
FileMaker Pro wears a lot of hats too. Jay literally built his business with it. He and his lean, mean staff use it to quickly research, quote, present, schedule, ship, label, invoice and generate checks and correspondence for every job. The entire staff can access that data simultaneously—and effortlessly. So almost any question a customer can think of can be answered *while they're on the phone*.
FileMaker Pro even closes Jay's books every month, in 45 minutes. As you might expect, those books look pretty good.
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COMPARISON

# Heavy-duty, floppy and personal: Backing up gets easy, sophisticated

*New products and updated releases of old standbys expand the range of choices for managing local and network backup.*

By Dan Magorian

Where there are disks, there are lost files; and where there are users, there are backup applications that should have been used but weren't. Luckily, upgrades and new entrants in several categories of Mac backup software are making the process easier as well as more sophisticated. We compared the latest versions of seven popular backup programs, representing a spectrum of different backup philosophies.

For individuals backing up their own data, price is a big issue and floppies are still the most popular media. In this category, we examined the $125 DiskFit Pro 1.0 from Dantz Development Corp. (recently acquired from SuperMac Technology) and the $99 Redux 1.63 from Microseeds Publishing Inc.

For network managers responsible for file servers and large local disks, tape support and automation features such as scheduling are key factors. Here we looked at Fifth Generation Systems Inc.'s $189 FastBack Plus 2.6, Surf City Software's $99 SurfGuard 2.09 and Centa Systems' $89 Total Recall 1.5.2.

And for the ambitious, high-end programs can extend a safety net across the network to back up users' local disks. In this category, the $399-and-up NetStream 2.1 from Personal Computer Peripherals Corp. competes with the $449-and-up Retrospect Remote 1.3 from Dantz.

**Flushing out the formats.** There are major differences in how backup programs do their jobs; one of the most basic is how the programs store your data.

Among those reviewed, only DiskFit Pro and SurfGuard create backups containing normal, Finder-readable files, though Redux can do so when a single destination disk can fit all files to be backed up. This method has the advantage of accessibility, since specific files can be searched for and restored in the Finder. When you back up to floppy disks, folders and their contents are scattered across multiple disks, and Finder-format backups can make finding a file awkward; they also don't allow data compression or encryption.

It's also important to consider whether a program can perform full disk-image backups. Normally, you want the flexibility to select and exclude files or folders by several criteria, and all of the programs reviewed provide this control. However, sometimes you want to make an exact image of a whole disk partition, for example to back up an A/UX disk or to duplicate an AppleShare server volume. Only NetStream and SurfGuard provide this optional sector-by-sector backup capability, although DiskFit Pro and Retrospect may sometimes suffice by letting you back up a disk's boot blocks along with its files.

**Server shuffle.** AppleShare servers present something of a backup problem because server volumes keep information about folder access privileges separately from standard Finder data. In addition, the Server Folder, which contains the vital Users & Groups file, is invisible and inaccessible to server clients under AppleShare 2.01.

The most complete backup method is to take the server off-line and back up the volumes as local disks; any of the programs reviewed can do this. However, in many situations it is inconvenient to shut down the server for backup. The next best solution is a backup program that understands AppleShare servers and retains privileges, combined with a habit of saving the Server Folder contents separately yourself. Among the seven packages we looked at, only Redux does not store AppleShare access privileges in a backup.

A PCPC representative said that NetStream now offers a way to back up on an AppleShare server fully using its network client software. Instructions for this were not available in time for review.

AppleShare 3.0 makes the Server Folder accessible to an administrator account, so full backup over the network should be possible with only AppleShare-aware programs. The access privileges of non-AppleShare servers, such as Novell Inc.'s NetWare, cannot be read by any of these programs, so such servers are treated the same as local hard disks.

**The little things.** The capability to schedule backups is a useful and sometimes necessary function for the midrange to high-end backup programs. Most programs have a scheduling function, and some packages provide extensions that launch the backup software and shut down afterward.

Data compression can save space on the backup media but at the cost of slower backups. Some tape drives offer hardware-based compression giving you extra space without losing speed, but this capability doesn't depend on the backup software. FastBack Plus and Retrospect offer software compression while backing up.

Security is important to quite a few environments. The usual methods are to password-protect the archive to prevent unauthorized access or accidental modification, and, beyond that, to make it unreadable through encryption. FastBack Plus, NetStream and Retrospect all provide encryption.

Also handy is the capability to run a backup process in the background

## Backup basics

**All the backup programs reviewed can copy all your data or your selection of files from any mounted volume to any other mounted volume.**

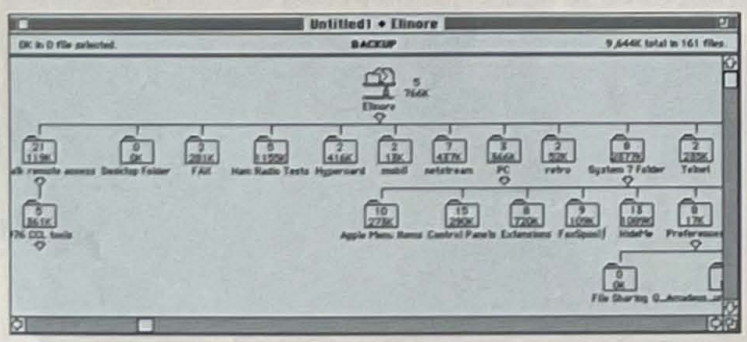
**Backup options**

| Program | Back up to ... Floppies | Tape drives | Back up from local disks via network | Backup methods Format | Disk image |
|---|---|---|---|---|---|
| DiskFit Pro | Yes | No | No | Finder | No |
| Redux | Yes | No | No | Archive* | No |
| Total Recall | Yes | Yes | No | Archive | No |
| SurfGuard | No | Yes | No | Finder | Yes |
| Fastback Plus | Yes | Yes | No | Archive | No |
| Retrospect Remote | Yes | Yes | Yes | Archive | No |
| NetStream | Yes | Yes | Yes | Archive | Yes |

**Advanced features**

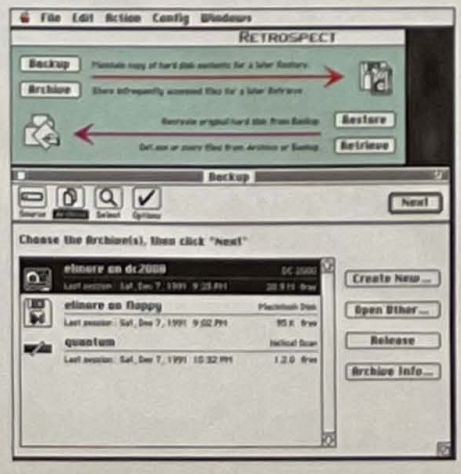
| Program | Schedule backups | Launch on schedule | Preserve AppleShare access privileges | Compression | Encryption |
|---|---|---|---|---|---|
| DiskFit Pro | Yes** | No | Yes | No | No |
| Redux | No | No | No | No | No |
| Total Recall | Yes | Yes | Yes | No | No |
| SurfGuard | Yes | No | Yes | No | No |
| Fastback Plus | Yes | Yes | Yes | Yes | Yes |
| Retrospect Remote | Yes | Yes | Yes | Yes | Yes |
| NetStream | Yes | Yes | Yes | No | Yes |

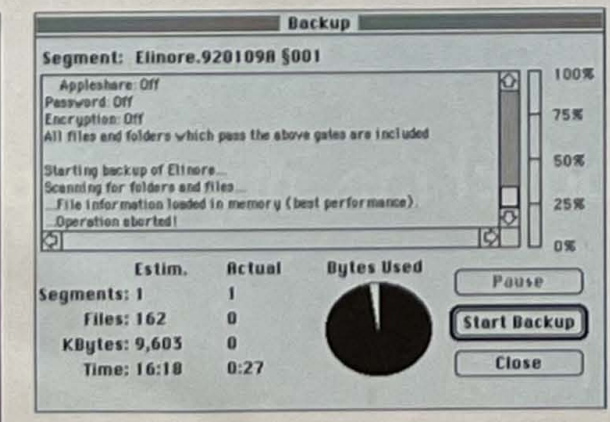
*Redux can save in Finder format under certain conditions.
** DiskFit will alert you of a scheduled backup but will not begin one automatically.



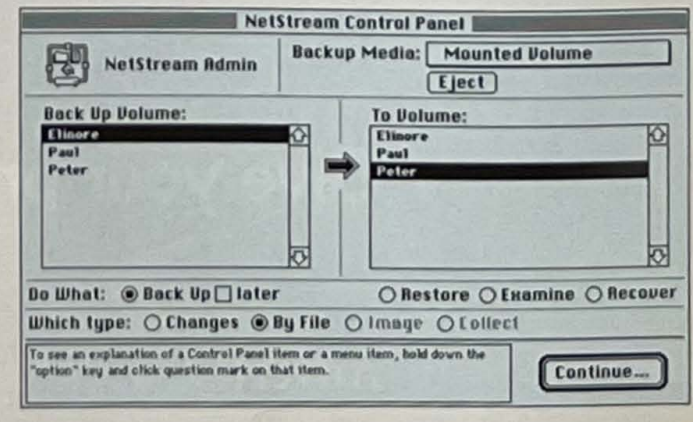

Total Recall's graphical "inverted tree" browser for file selection is preferred by some users. While no standout in performance, the program has a good cross-section of features.

The feature set and performance of market leader Retrospect from Dantz Development are unmatched.




Fifth Generation's Fastback Plus specializes in fast backup to floppies.




PCPC's NetStream was the first network client backup for the Mac.

## SCORE CARD

**Backup software**

| Categories | DiskFit Pro | Redux | Total Recall | SurfGuard | FastBack Plus | Retrospect Remote | NetStream |
|---|---|---|---|---|---|---|---|
| Overall value | ● | ● | ● | ● | ● | ● | ◉ |
| Performance | ● | ● | ◉ | ● | ● | ● | ◉ |
| Features | ◉ | ● | ● | ● | ● | ● | ● |
| Ease of use | ● | ● | ● | ● | ● | ◉ | ○ |
| Documentation/support | ● | ● | ● | ◉ | ● | ● | ● |
| List price | $125 | $99 | $89 | $99 | $189 | $449* | $399** |

Excellent ● Very good ● Good ● Average ◉ Below average ○

*Includes software for 10 network clients; single-user version, $249. ** Includes software for five network clients; single-user version, $99.

## SYSTEM 7 COMPATIBILITY

| Features | DiskFit Pro | Redux | Total Recall | SurfGuard | FastBack Plus | Retrospect Remote | NetStream |
|---|---|---|---|---|---|---|---|
| Balloon help | Yes | No | Yes | No | Yes | Yes | No |
| Apple events | No | No | No | No | No | No | No |
| 32-bit addressing* | Yes | Yes | Yes | Yes | Yes | Yes | Yes |

*According to vendor.

## BENCHMARKS

**Backup software**

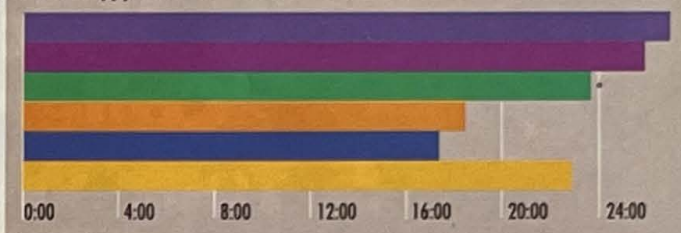
(Results in minutes: seconds; lower is better)

DiskFit Pro
Redux
Total Recall
SurfGuard
Fastback Plus
Retrospect Remote
NetStream

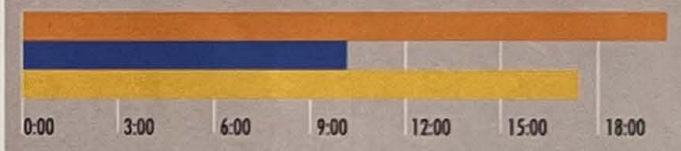
Back up file server over Ethernet ...

... to hard disk

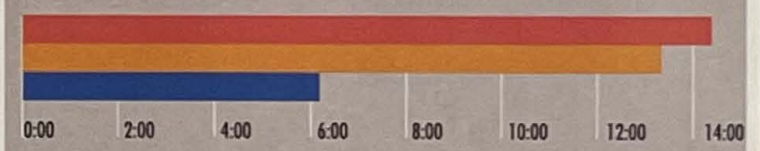
... to floppy disk




... to DC2000 tape




... to WangTek 6130 DAT




*Tested under System 7.0.1.

### Methodology

*We set up an AppleShare 2.01 server (a Mac SE running System 6.0.7 with a slow 20-Mbyte Miniscribe hard disk) and connected it via an isolated Ethernet segment to a Mac II client also running 6.0.7. With the AppleShare volume mounted, we backed up 9.2 Mbytes of data onto 800-Kbyte floppy disks, a local 80-Mbyte Quantum Q80S hard disk, an Apple Tape Backup 40SC (based on a DC2000 mechanism) and a Tecmar DATaVault (based on a WangTek 6130 tape mechanism).*

so you can work on other tasks. This feature obviously doesn't work very well with backups to floppy disks, and there's controversy among software developers about how well this feature can work when data is streaming to a tape drive at a high rate. We found that only Dantz's programs, DiskFit Pro and Retrospect, could perform background backups well.

**Surprising non-issues.** All the applications reviewed provide disk-browser windows and file-selection criteria that are easy to use and differ mostly in style. We didn't consider file-selection approaches to be a major difference between programs.

All were tested under System 7.0.1 running in 32-bit mode using virtual memory, and all worked fine. In fact, Total Recall crashed when backing up to floppies under System 6.0.7 but worked under 7.0.1. Centa is aware of the bug and said its program is more reliable under System 6.0.5.

**From the ground up.** The feature that separates the low end and midrange is support for tape. The number of mechanisms supported, whether the drivers are customized for performance and the user interface for tape control are the important distinctions among the programs that do support tape. Five of the programs reviewed support at least some types of tape; two didn't.

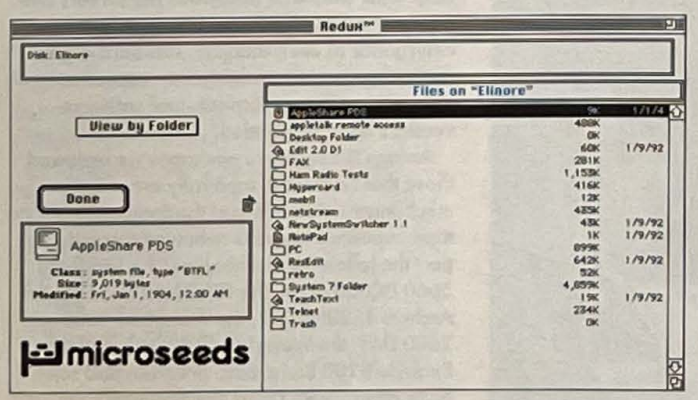
*There are major differences in how backup programs do their jobs; one of the most basic is how the programs store your data.*

When DiskFit was updated as DiskFit Pro, Dantz dropped the program's earlier support for DC2000 tape mechanisms. With the emergence of ever-larger removable disks, the company's philosophy of backing up only to and from media that appear on the Mac desktop will serve some users well. DiskFit Pro lacks advanced features, such as scheduled, self-executing backups, but for always-current full-disk backup it is easy to use and showed good performance. However, many users consider DiskFit's SmartSet and Subvolume selection mechanisms cumbersome.

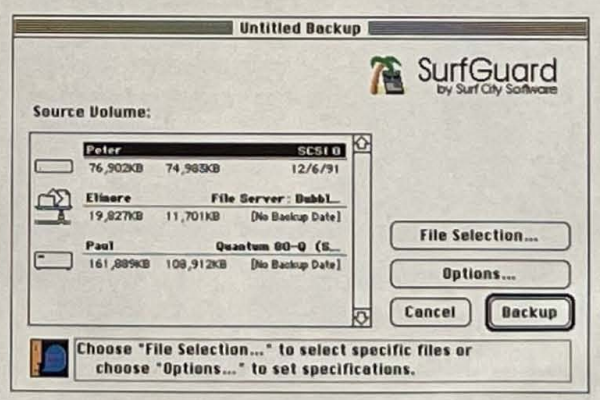
Microseeds' Redux competes directly with DiskFit Pro. It's a conservative program for individuals that sports limited features with good performance. Redux doesn't support tape drives either and was the one program that didn't back up AppleShare information. But backing up to floppy disks or another hard disk was flawless. Also important, Redux has a smooth interface that makes its features accessible and gives the program a solid feel.

Centa's Total Recall provides many popular features at the lowest price of the bunch. It uses a graphical "inverted tree" browser for file selection, which some people prefer to the file and folder

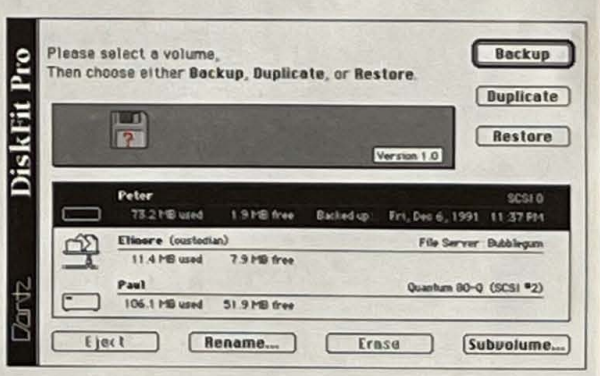
*See Backup, next page*




Redux has simple features, and we prefer its clean interface. It's geared for floppy backup, but uses an archive format unless the backup files will fit on one disk.




New entry SurfGuard provides a mix of features at a low price. Interestingly, it is the only program that does not back up to floppies.




Dantz Development's DiskFit Pro 1.0 has essentially the same easy-to-use interface as previous versions from SuperMac Technology. Dantz has dropped tape support for DiskFit, however.

## Backup

*From previous page*

lists found in the others. Centa said Total Recall supports several common tape mechanisms, although Version 1.5.2 did not work with either the DC2000 drive or the WangTek 6130 we used. Version 1.5.3 supports the 6130, according to Centa. Like the others, backup performance to hard disks was good.

Surf City's SurfGuard also serves up a low-priced blend of popular features but interestingly does not support floppy backup. SurfGuard can save backups in Finder-readable format and also supports some popular tape mechanisms. There were still some rough edges, however. We had to format damaged DAT tapes using another program, and the user interface seemed simplistic.

Fifth Generation's FastBack Plus is a capable Mac offering from the makers of a popular backup program for IBM PCs and compatibles. The company's specialty is fast backups to floppy disks and the capability to exchange backup floppies with PCs directly (assuming you are running FastBack on the PC and have a SuperDrive-equipped Mac). But FastBack Plus also has advanced scheduling, macro and security features, and supported both of our test tape mechanisms. Backing up to floppy disks with FastBack is indeed quite fast, but its performance to hard disk and tape media was average at best. One added plus: Fifth Generation's technical support is active 24 hours a day.

*See Backup, next page*

### ON BALANCE

**Backup software**

MacWEEK

- **DiskFit Pro 1.0** from Dantz Development Corp. continues the popular approach of creating an always-current Finder-readable backup to floppies. It is easy to use and showed good performance in the backup benchmarks.
- **Redux 1.63** from Microseeds Publishing Inc. is a low-cost personal backup program with limited features but good performance. It doesn't support tape drives, but Redux allows easy recovery and backup of specific files and folders.
- **Total Recall 1.5.2** from Centa Systems provides many features at a low price. It supports some of the popular tape mechanisms, and performance was average. It did not stand out from the pack, however.
- **SurfGuard 2.09** from Surf City Software also is a low-priced blend of midrange features. It does disk-image as well as file-by-file backup but doesn't work with floppies. Despite its features, rough edges in the interface gave us pause.
- **FastBack Plus 2.6** from Fifth Generation Systems Inc. is the most capable midrange backup program. Its specialty is fast floppy backup, though it also supports many tape formats. Its performance with other media was slower than other programs, but FastBack has a very good set of features and excels for its stated audience.
- **Retrospect Remote 1.3** from Dantz is king of the hill in high-end backup, though many users find parts of its interface unfriendly. The program is the fastest, supports almost every existing and emerging tape drive and includes a multitude of powerful features. Client backup via AppleTalk worked flawlessly.
- **NetStream 2.1** from Personal Computer Peripherals Corp. competes with Retrospect Remote on features and price, but we found the program's interface to be difficult. Local backup to hard disk and floppy worked fine, but we had problems with the client software. More work is needed before we can recommend NetStream.

## Tape hits sticking point

There's been a change in attitude among Mac users about tape drives. For years even large Mac sites with numerous file servers and power users avoided tape backups. But the emergence of ever-cheaper, standard digital audio tape and 8mm drives has caused a reversal in user acceptance, and software vendors have responded.

Among the software packages we reviewed, those that back up to tape rally around a few mechanisms. According to the companies, all the tape-capable programs reviewed currently support the following mechanisms: the Tandberg 3660 DC600 drive, the TEAC N50 and F50, the Archive 4520NT DAT, the WangDAT 1300 and 2600 DAT, the WangTek 6130 DAT, and the Exabyte 8200 8mm. Each program also supports others, with Dantz Development Corp.'s Retrospect and Surf City Software's SurfGuard supporting the most overall.

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9600 bps Version
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## Backup

*From previous page*

**Reach out and back up.** Dantz's Retrospect Remote is the high-end backup standard against which all others are judged (see MacWEEK, Dec. 18, 1990). The latest version of PCPC's NetStream has similar features and ambitions to compete directly with Retrospect. Unfortunately, there's no comparison.

NetStream and Retrospect include client software that enables scheduled backups across AppleTalk networks to a high-capacity storage device attached to any Mac running the primary application.

We found PCPC's interface to be confusing and hard to use. While a number of tape mechanisms are supported, the program is unable to back up a large volume to multiple smaller tapes, a serious limitation for anyone not using DAT or 8mm formats. (Incremental updates can span several tapes, however.) Local backup to hard disks and floppy disks worked fine, but in our tests, the software crashed Macs on Ethernet unless they were running the latest versions of Apple's drivers. We couldn't get NetStream's client extension to work at all on a Mac SE with a Shiva Corp. Ethernet card. (Shiva's cards were formerly sold by market-leader Kinetics Inc., and are very common in corporations.)

Retrospect Remote's benchmark speed to tape stood head and shoulders above the crowd on the strength of customized drivers. Retrospect even beat FastBack Plus in backing up to floppy disks. Dantz's program also had the best scripting, compression and security features. Retrospect's remote features worked smoothly over Ethernet and LocalTalk. While some find Retrospect easy to use, many complain its interface is un-Mac-like; usability is the program's weakest point.

**Conclusions.** In terms of features and performance, Retrospect still clearly leads the field for heavy-duty backup. For floppy backups, FastBack Plus turned in very good benchmark times; its speed on other media was only good. FastBack's support of tape formats and generally very good feature set and support make it the best midrange choice.

Total Recall and SurfGuard are good products with a few missing features and flaws. SurfGuard's lack of floppy support is a problem; users should be able to back up to the most common media. Total Recall has some bugs. These new entrants are evolving quickly, though; at half the price of FastBack Plus, they may be worth keeping an eye on.

The personal backup category is hardest to judge. We prefer the feel of Redux overall, but DiskFit's approach has proven itself consistently popular. Redux is better at selective backups, so we'd say it edges out DiskFit Pro for individual users. □

### Product Info

CENTA SYSTEMS
**Total Recall 1.5.2:** $89
5130 E. La Palma Ave., Suite 106, Anaheim, Calif. 92807
Phone (714) 693-8825
Fax (714) 693-8618

DANTZ DEVELOPMENT CORP.
**DiskFit Pro 1.0:** $125
**Retrospect 1.3:** $249
**Retrospect Remote 1.3:** $449 (includes 10 clients)
**Remote 10-user pack:** $249
1400 Shattuck Ave., Suite 1, Berkeley, Calif. 94709
Phone (510) 849-0293
Fax (510) 849-1708

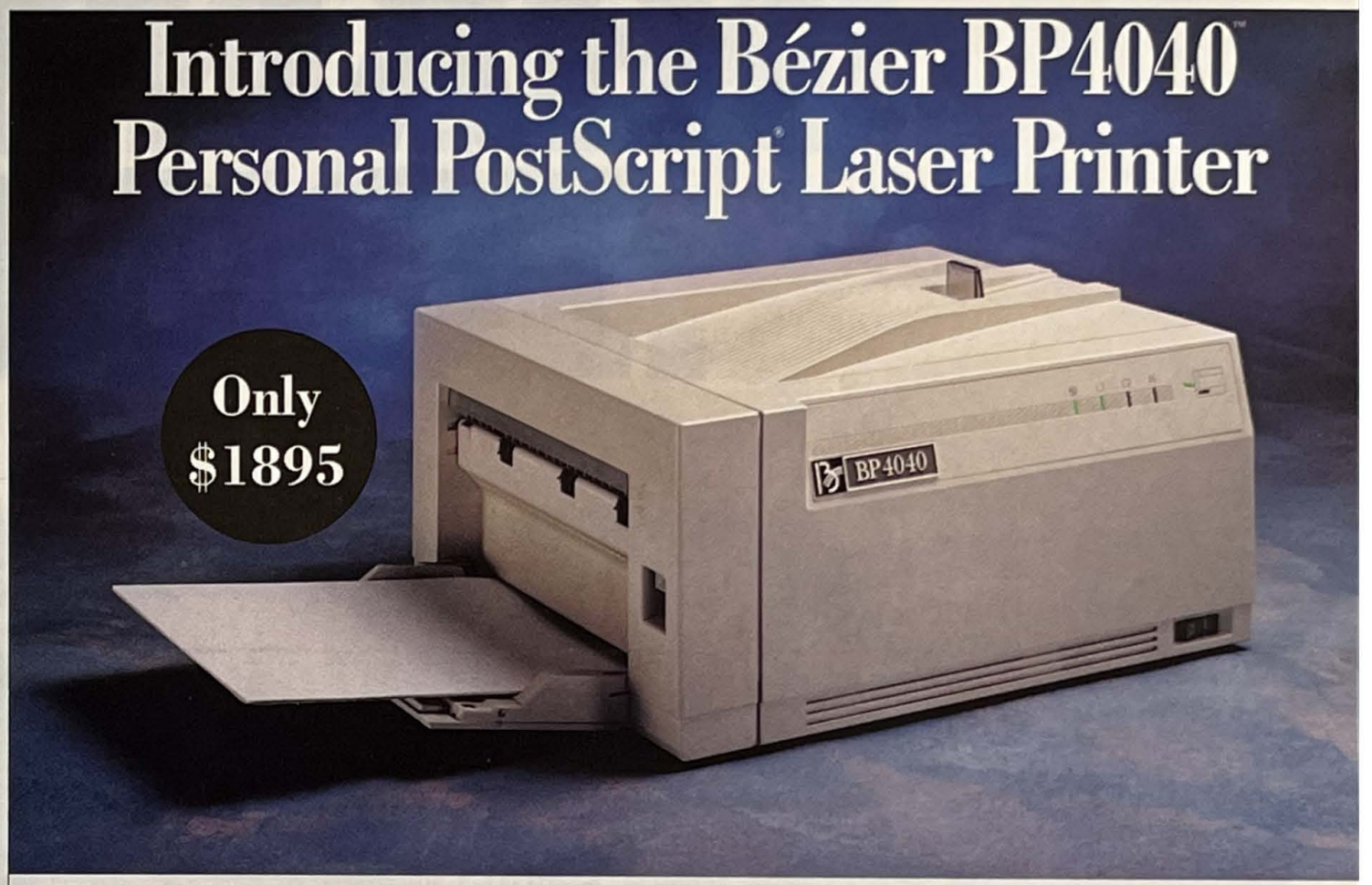
FIFTH GENERATION SYSTEMS INC.
**FastBack Plus 2.6:** $189
10049 N. Reiger Road, Baton Rouge, La. 70809
Phone (504) 291-7221 or (800) 873-4384
Fax (504) 291-5453

MICROSEEDS PUBLISHING INC.
**Redux 1.63:** $99
5801 Benjamin Center Drive, Suite 103, Tampa, Fla. 33634
Phone (813) 882-8635
Fax (813) 884-5941

PERSONAL COMPUTER PERIPHERALS CORP.
**NetStream 2.1:** $99 for local backup; $399 for local backup plus five network users; $99 per additional user; $299 for 10-user pack
4710 Eisenhower Blvd., Building A-4, Tampa, Fla. 33634
Phone (813) 884-3092
Fax (813) 886-0520

SURF CITY SOFTWARE
**SurfGuard 2.09:** $99
8144 E. Woodwind Ave., Orange, Calif. 92669
Phone (714) 289-8543
Fax (714) 289-1002


# Introducing the Bézier BP4040™ Personal PostScript® Laser Printer

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With UMBFILES
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PC/Computing
The number one computer monthly shows over 700,000 business computer experts how to use PCs to maximize productivity and profits to competitive advantage for their companies.
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The world's number one computer newspaper is relied on by over 200,000 volume buyers in over 88,000 core installations for its timely PC and multiplatform news and analysis every Monday.
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velopers ease, speed
Windows
d interface
multi-user Mac databases, has been optimized even further in Omnis 7, which was rewritten from the ground up, but maintains compatibility with Omnis 5. Programs developed in Omnis 5 will automatically convert to Omnis 7 format when opened and saved within the new database, sources said.
▸ Cross-platform capabilities. Both Mac and Microsoft Windows versions now use similar interfaces. For example, Windows conventions, such as combo boxes (pop-up lists
Home Listings
City
#1
MacWEEK
The number one weekly in the Macintosh market is preferred by over 85,000 Mac volume buyers in almost 34,000 core installations for its newspaper coverage on computing from the perspective of the Macintosh standard.

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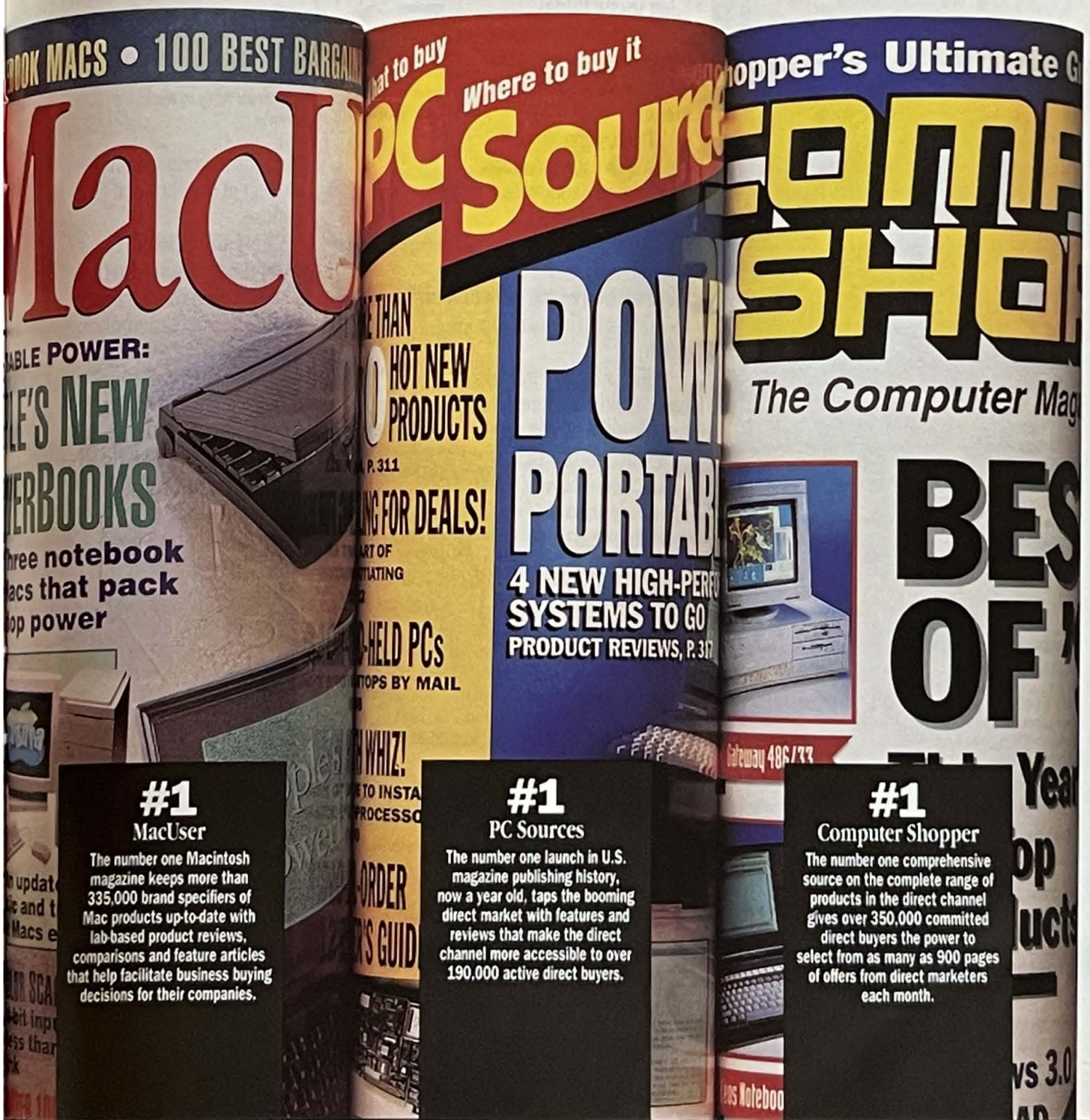


**#1**
**MacUser**
The number one Macintosh magazine keeps more than 335,000 brand specifiers of Mac products up-to-date with lab-based product reviews, comparisons and feature articles that help facilitate business buying decisions for their companies.

**#1**
**PC Sources**
The number one launch in U.S. magazine publishing history, now a year old, taps the booming direct market with features and reviews that make the direct channel more accessible to over 190,000 active direct buyers.

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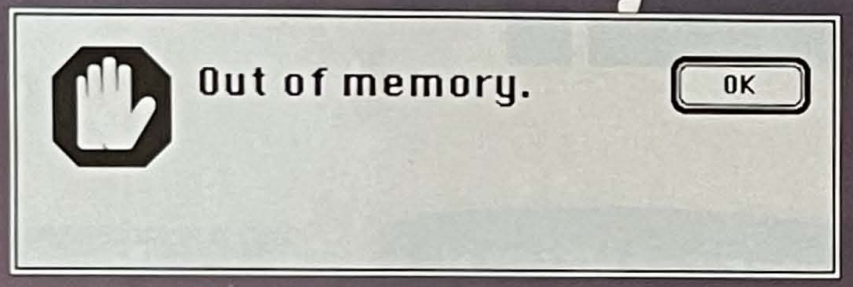



If you think the only way to avoid running out of memory is to avoid running a couple of your favorite applications, think again.

Think about all those memory-hogging fonts and sounds you've got stuffed into that bulging System File.

Then do what over 200,000 resourceful Mac users do every day.

Instead of closing your applications, open a Suitcase.™

Suitcase is the award-winning utility that lets you park your growing collection of fonts, DAs, FKEYs and sounds *outside* the System File.

Thereby giving you the maximum amount of memory for running more applications, building bigger documents and doing other useful things.

What's more, Suitcase compresses your screen font and sound files by up to 60%.

Thereby giving you that much more precious disk space to work with.

It even lets you put your screen and printer fonts on a server for all to share.

Thereby making each disk on the network that much more spacious.

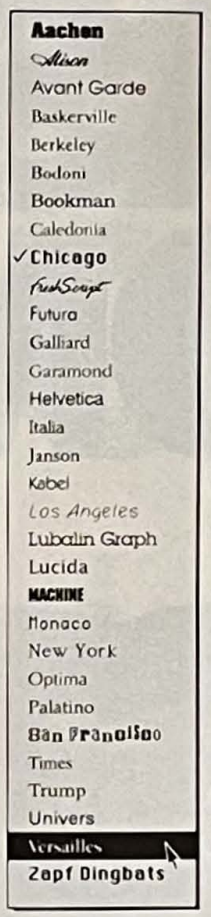
The more resources you have—and the more organized you are—the more memory and disk space you'll save.

But whether your dividends are measured in megs or merely in Ks, Suitcase is guaranteed to save you gigabytes of aggravation.

Even if you're operating in System 7.

Because System 7 still stuffs your resources into your System File.

And System 7 still makes you close down all your applications and restart your Mac each time you install a new font.




Which is a real pain in the, uh, system.

Suitcase, on the other hand, gives you unlimited access to all your resources.

And total control over how you organize them.

Each suitcase can pack up to 800 fonts, 64 DAs, and any number of FKEYs and sounds.

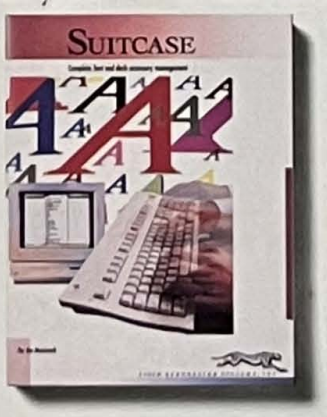
You can group suitcases into sets, then summon all the luggage that belongs with a particular project at the click of a mouse.

*Can't remember the difference between Versailles and Monaco? Not to worry. Suitcase displays your typefaces right in the menu.*

Tips are optional. But here's one for those of you who find font ID conflicts even more irritating than running out of memory.

Get Suitcase. It eliminates them.

Call us at 1-800-765-8209. We'll tell you about our vaunted 24-hour toll-free technical support.




We'll also tell you that Suitcase is backed by a one-year money-back guarantee.

So you can be sure this baggage will live up to its claims.

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# PRODUCT WATCH

- Buying info
- Expert advice

# On-line databases open world of info

*The variety of on-line services can provide timely, accurate information on everything from stock market quotes to the latest in System 7 tips.*

**By John Battelle**

By now you've probably heard about the "wealth of information" nestled somewhere out there in the electronic netherworld known as "the on-line universe." You know there is valuable information out there; you may have even dabbled in the on-line world. So what's stopping you from jumping in with both feet?

If you're like most people, the staggering amount of information and cryptic interfaces used in on-line services is enough to put you off. Databases and bulletin boards (electronic message centers) are available for every imaginable topic — from neuropsychology to Zen Buddhism. There's also invaluable business and computer information.

Finding your way along the poorly marked trails of cyberspace, however, is something of a task. The first choice you must make is the type of service that is right for you or your business.

**Bulletin boards.** Electronic bulletin board systems, often run by one group or even one person, are simply message boards where people share ideas, usually about one broad topic.

Most BBSes have software libraries and file transfer capabilities. The BMUG BBS in Berkeley, Calif., is one of the best-known among Mac users. It is free to user group members and includes many computer-related conferences, a vast software library and links to international electronic mail via FIDOnet and the Internet.

Non-members can peruse its text-based interface but cannot download software. You can request membership information on-line, however.

One of the largest BBSes in the country is Exec-PC from Exec-PC Inc. of Elm Grove, Wis. More than 10,000 people use this bulletin board, 2,000 of whom are Macintosh users. The Exec-PC BBS has more than 2,500 Mac shareware files, a free Apple Copyright software library with 600 files directly from Apple, as well as a message and conferencing section. Membership fees are $60 for one year or $20 for three months — there are no other charges.

Conferencing forums are a more complex version of the BBS. They often have hundreds of discussion topics and offer sophisticated features, such as searching for text strings, electronic mail, other forum members and public data networks.

The WELL (Whole Earth 'Lectronic Link) and ECHO (East Coast Home Office) forums are famous for their lively conferences and eclectic, intelligent clientele. They include conferences on such topics as the Grateful Dead and Silicon Valley, and chances are if you have a question, regardless of the issue, someone on-line will be able to answer it — if you post it in the right place.

Forums cost an average of $10 per month and $2 to $5 per hour of connect time (depending on the time of day). Most let you sign up via modem — the WELL, for example, takes your credit card number on-line.

**Getting graphic.** Many forums and BBSes are based on arcane operating systems such as Unix. For Macintosh users, the command-line interface may prove too much to bear, even though some telecommunications programs do their very best to make the effort painless.

Larger commercial on-line services usually have graphical front ends — software you install on your Mac — that lead you through a vast array of forums, software libraries, live conferencing and electronic mail.

Prodigy, a joint offering from IBM Corp. and Sears, is probably the best-known (and most-maligned), but for Mac users America Online is the most popular. CompuServe, the granddaddy of all on-line services, also has a graphical front end for the Mac (Navigator and CompuServe Information Manager). But beware: The quality of these interfaces varies widely.

Prodigy takes over your Mac completely; it won't work with MultiFinder or allow access to the Apple menu. Its low price ($12.95 a month, no connect charges) is subsidized by advertising that fills the lower portion of your screen.

Although most Mac users will find its interface a bit confusing, Prodigy does offer travel information, business and world news, an encyclopedia and mail to more than 1 million other Prodigy users — the largest on-line community in the United States.

America Online is the commercial cousin of AppleLink, Apple's on-line service for developers, universities and large users. AppleLink is the best place to get news, information and software from Apple and third parties, but if you don't have an account, AOL is the next best thing to being there.

AOL is graced with what many believe is the most Macintosh-friendly interface. While AOL used to be Mac-only, IBM PC-and-compatible users now can use a Windows-like version. AOL offers more features than Prodigy, including a live chat capability, a sort of text-based party line.

AOL has no advertising, so the cost is higher: $5.95 per month, $5 to $10 per hour of connect time.

**On-line databases.** For the deep-pocketed on-line user, a plethora of specific databases is available. They include news, business, medical research and legal citation databases.

These have their own command-driven interfaces and connect you directly to a no-nonsense prompt that asks for a query. When working with these databases it's best to know what you want before you log on; browsing can be extremely costly.

Nexis from Mead Data Central Inc. offers full-text articles from hundreds of newspapers and journals. Lexis, its legal cousin, provides comprehensive case citations.

When you sign on to Nexis you are asked to choose specific business, trade, current and archived file databases, and then make a keyword search request. The results can be viewed in various formats: in full text, by citation or by context (you see your keyword in the context of a few sentences within the article). But Nexis is expensive: It can cost up to $1,000 per month when packaged with Lexis.

NewsNet, from the company of the same name, offers the full text of more than 500 industry-specific newsletters. However, you have to pay for both the NewsNet subscription and subscription to the news-

*See On-line, next page*

**PriceWatch**
ON-LINE SERVICE COSTS

| Item | Subscription | On-line fee |
|---|---|---|
| **America Online Inc.**<br>America Online | $5.95<br>per month | $7.50*<br>per hour |
| **CompuServe Inc.**<br>The CompuServe Information Service | $2<br>per month | $12.50<br>per hour |
| **Apple**<br>AppleLink | $56<br>start-up | $9.60<br>per hour |

*Average.

## On-line

*From previous page*

letter. NewsNet's base rate is $15 a month and $60 to $90 per hour of connect time.

**Print publishers database.** Print publishers have gotten into the database business with a vengeance. McGraw-Hill Inc. (publishers of BusinessWeek, Byte and many other publications) offers specific databases with up-to-the-minute information on the computer, oil, airline and other industries.

Dow Jones & Co. Inc., publishers of the Wall Street Journal, provides up-to-the-minute financial information, at a premium cost. Ziff-Davis Publishing Co. (publishers of MacWEEK, PCWeek and MacUser, among other publications) offers ZiffNet, a complete on-line service with an extensive computer publication database, several on-line forums and a gateway to CompuServe.

Databases such as these can cost hundreds of dollars a month, once you add up access and monthly fees, but can be invaluable compared with the time and energy you might expend trying to find the information by conventional means. Most services offer corporate and volume discounts.

Only a fraction of the available on-line services could be discussed here. For an exhaustive list, go down to your local library and browse through a copy of either the Gale directory or How to Look It Up Online, by Alfred Glossbrenner. It may be the last time you ever have to go. □

## Product Info

AMERICA ONLINE INC.
**America Online:**
$5.95 per month with one free hour
$5 to $10 per hour
Phone (800) 827-6364

BMUG INC.
**BMUG BBS:**
$40 membership per year
Free browsing for non-members
Phone (510) 540-2684
Modem (510) 849-2684

COMPUSERVE INC.
**The CompuServe Information Service:**
$2 per month
21 cents per minute,
plus 21 cents per minute download fees
Phone (800) 848-8199

DOW JONES & CO. INC.
**Dow Jones News/Retrieval:**
$18 per year
$29.95 start-up
60 cents to $2.16 per minute,
plus download fees
Phone (800) 522-3567

ECHO COMMUNICATIONS GROUP INC.
**ECHO:**
$18.95 per month first 30 hours,
$10 each 10 additional hours up to 20 hours,
$10 additional per month for unlimited access afterward
Phone (212) 255-3839
Modem (212) 989-8411

EXEC-PC INC.
**Exec-PC BBS:**
$60 per year
$20 for three months
No other charges
Phone (414) 789-4200
Modem (414) 789-4210

MEAD DATA CENTRAL INC.
**Nexis/Lexis:**
$28 connect time Lexis only
$30 connect time Nexis only
$125 per month subscription cost per location, up to $750 for six or more locations
$6 to $28 per hour extra for specialized database access
Phone (800) 227-4908

NEWSNET INC.
**NewsNet:**
$180 per year
$60 to 90 per hour
Phone (800) 345-1301

PRODIGY SERVICES CO.
**Prodigy:**
$12.95 per month
No connect fees
Phone (800) 776-3449

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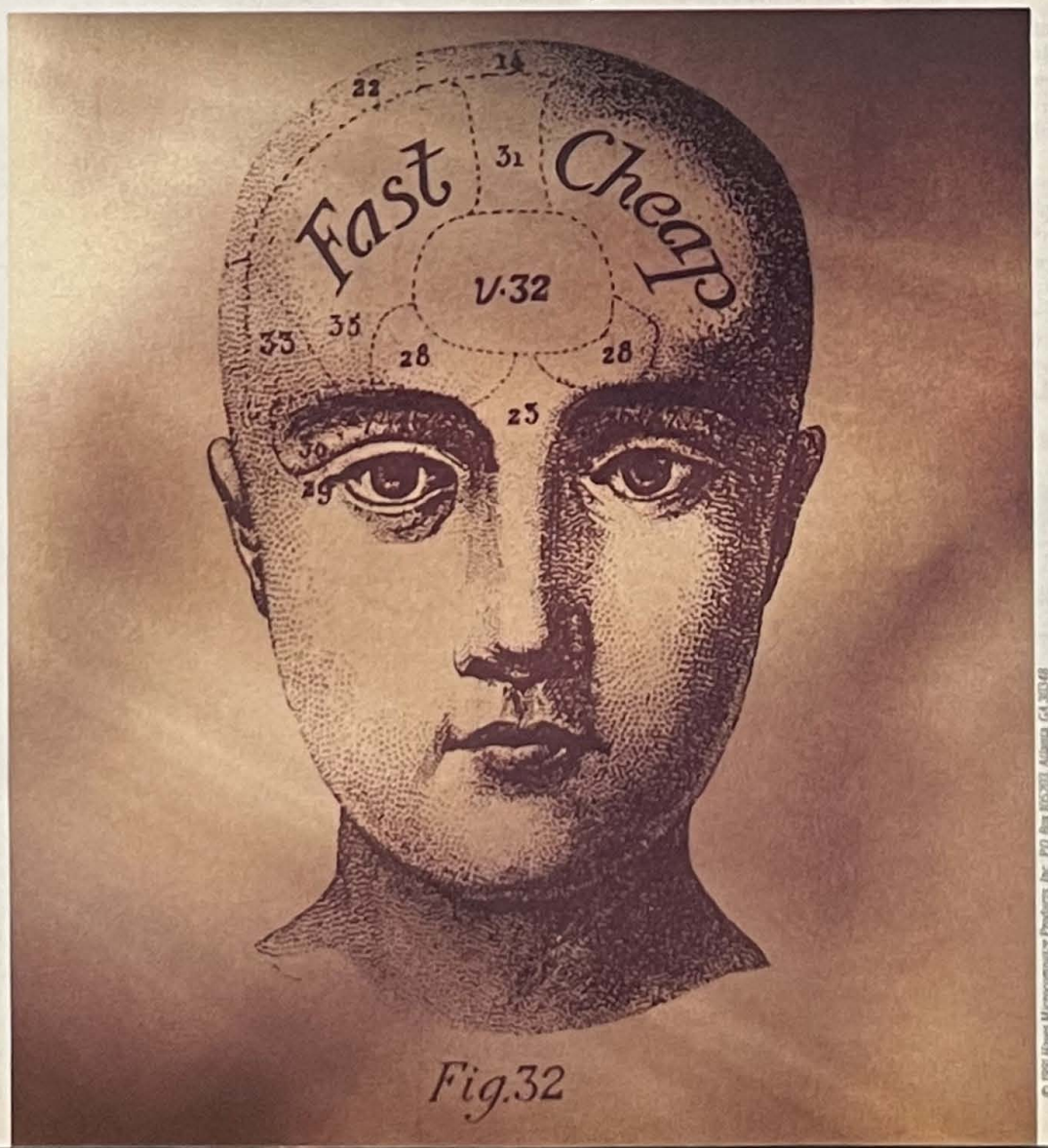


*Fig.32*

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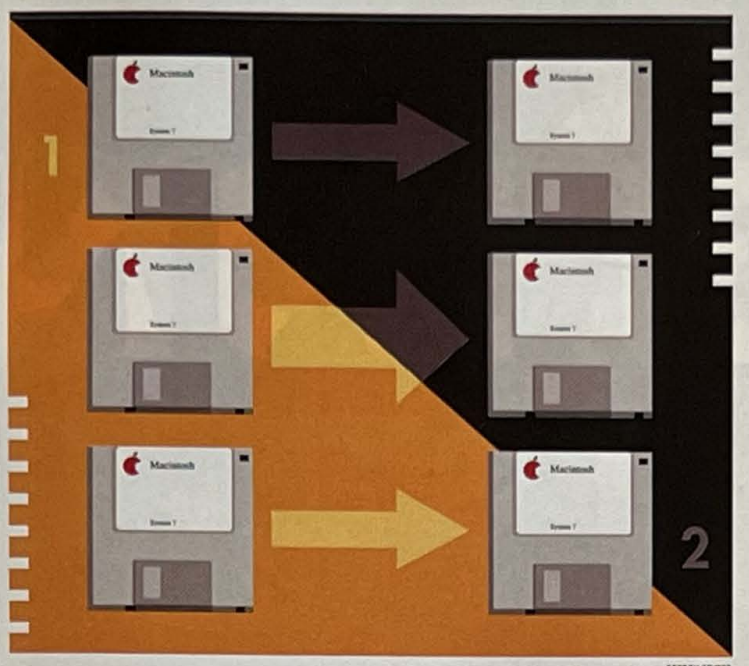


GORDON STUDER

**MacInTouch** RIC FORD

# Wrangling with Word and duplicating disks

*Disk Copy 4.2 is a solid little disk utility from Apple, and it takes up only 24 Kbytes. Word 5.0 takes up considerably more space, and it has a few glitches to fix.*

BUGS & TIPS

**Dynamic duplication.** How do you make an exact duplicate of a floppy disk easily? What is the best way to transfer an entire floppy over a telecommunications link? How do you make 100 copies of a disk and ensure that each is copied correctly? How do you archive an exact copy of a disk on another storage medium?

A little 24-Kbyte application from Steve Christensen and Apple covers these tasks with ease. Disk Copy 4.2 is distributed free through Apple's developer channels and online services.

The program works with "images" of floppy disks, which are kept in RAM or saved as files on a hard disk.

Its operations are straightforward: read a master floppy, make copies, load an image file from disk or save one.

One clever use of the program is for working around problems reading commercially duplicated 800-Kbyte floppies in the PowerBooks.

Peter Trindler, an Apple dealer in England, found that he could duplicate a problematic master floppy using Disk Copy on a desktop Mac and then use the duplicate to install software successfully on PowerBooks that were having trouble reading the floppies. (As previously reported in MacWEEK, turning off PowerBook backlighting is another work-around that sometimes helps.)

Disk Copy works with all Mac floppy formats, Apple II ProDOS (800-Kbyte) and even MS-DOS floppies.

Aside from copying floppies more conveniently and completely than the Finder does, Disk Copy is now being used for distributing Apple system software via on-line services.

Master floppies from Apple are saved as image files, which then are compressed to save space and shorten transmission times. At the receiving end, Disk Copy can read the file after it is decompressed and create an exact duplicate of the original floppy, right down to the disk name (so installer scripts, for example, work correctly on a copied disk).

This approach works well for distributing complete floppy disks, as long as the recipient has Disk Copy and understands the process.

An unreleased companion utility is still in the test phase. MountImage 1.1B3 is a control panel that can mount Disk Copy image files on the desktop, providing access to individual files on a write-locked virtual floppy disk.

MountImage and Disk Copy 4.2 are available in the Developer Services folder on AppleLink, within the Support Utilities folder inside the Developer Essentials folder.

Disk Copy 4.2 also is available at GO CIS:MACDEV on CompuServe, as file DCOPY.SIT in Library 8. Apple system software is available in compressed image file format at the same location.

Note that, because Disk Copy is RAM-based, your Mac needs enough free memory to cover the size of the disk — as much as 1,600 Kbytes for a high-density Mac floppy.

**Words to the wise.** Microsoft Word 5.0 has a strange little glitch in its MacWrite translation routines. If you happen to be using typesetting characters such as curly quotes, em dashes and en dashes in a Word 5 document, they will be lost in the process of saving the document in MacWrite format.

The bug reportedly does not appear when opening MacWrite documents or when translating MacWrite II documents.

Microsoft Corp. has acknowledged the bug but had not yet provided a solution as this was being written. (The affected characters are 208 to 213 decimal, D0 to D5 in hexadecimal.)

One work-around is to open the Word 5 document with Word 4 and save it in MacWrite format from Word 4, which does not contain the same bug.

Another strange problem has been reported with Word 5 and Aldus PageMaker 4.

In this case, a Word 4 file that is subsequently opened with Word 5 may not place correctly into a PageMaker document. Word 5-only files and Word 4-only files place correctly.

The work-around in this case is to open the problem file with Word 4, save in RTF and reopen in Word 4. The new file should place correctly.

(Note that the latest set of import filters for PageMaker is available at GO CIS:SBSALDUS on CompuServe as file QUADFL.SIT in Library 0.)

Finally, some reports on the networks say that graphics editing in Word 5 may be prone to crashes, especially in low-memory situations. □

*Comments on MacInTouch are welcome at 7 Parmenter Ave., Maynard, Mass. 01754. Phone (508) 897-2621. Address electronic mail to RICFORD on MCI Mail and AppleLink, to 72511.44@compuserve.com from the Internet; to 72511.44 on CompuServe and to MACWEEKBOS from America Online and GEnie.*

*Join us on-line in the MacWEEK Forum by typing GO ZMC:MACWEEK on CompuServe or ZiffNet/Mac.*

**Ask David Ramsey**

## Power user seeks new GWorld order

**Q:** *I'm setting up a high-performance Mac graphics station. I'm told I need a video card with "GWorld" RAM on it. What is this?*

**A:** GWorld (pronounced "gee world") stands for "graphics world." It's a data structure in memory comprising a graphic image and other data associated with it, such as color palettes. Normally, a GWorld exists in the main memory of the Mac, and the contents of an image are copied to the video memory on your video card as necessary. If you're moving a lot of data between main memory and the video card, as is the case with a large 24-bit-color image, the transfer over NuBus can become a bottleneck.

If the video card has its own GWorld RAM, the entire GWorld is stored on the card, so changes made to the image are displayed more quickly. Apple's Macintosh Display Card 8•24 GC is one example of a video card with GWorld memory; SuperMac Technology's Thunder video cards are another. Both of these cards also have on-board processors that accelerate most QuickDraw operations.

Note that few applications now available will use on-card GWorld memory. System 7's Finder will, as will SuperMac's PixelPaint Pro, Aldus PageMaker and a forthcoming release of Adobe Photoshop.

**Q:** *In the Views control panel, I changed the way the Finder displays some items, but the next time I booted, the changes were gone. What gives?*

**A:** What gives is a damaged Finder Preferences file; you're experiencing a classic symptom of this problem. Open the Preferences folder in your System folder, find the Finder Preferences file, throw it away and reboot. Now make the changes you want in Views, and they'll stay around between restarts.

**PowerBook charging tip.** There are few things more frustrating than having your PowerBook battery die 10 minutes after the plane takes off, especially when you charged it up the night before. Be careful: The lightning bolt charging indicator will appear initially when you plug the charger into the PowerBook — even if the charger's not plugged into an outlet or the outlet's switched off.

*Please send questions to David Ramsey on CompuServe: 76702,335 or to Ask David Ramsey, c/o MacWEEK, 301 Howard St., 15th Floor, San Francisco, Calif. 94105.*

**The Help Desk**

## The system and StyleWriter compatibility odyssey

**Apple has commendably and doggedly upgraded the StyleWriter printer driver. The result, unfortunately, is a patchwork of compatibility.**

- **There have been reports that Version 1.0 of the StyleWriter driver, which works fine with System 7.0, doesn't work with System 7.0.1.**
- **The System 7 Tune-Up Installer script automatically replaces StyleWriter 7.2 (the fast version that supports background printing) with Version 7.2.2. The Installer will not run on System 6 disks, but don't get clever and drag this latest StyleWriter driver onto your System 6 disks; it won't work. If you want background printing on the StyleWriter under System 6, use Version 7.2. If you are a System 7 user, opt for the Tune-Up and StyleWriter 7.2.2.**

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—HENRY NORR, MACWEEK EDITOR

**THE CONNECTIX/APPLE DEAL. JANUARY:** In a series of special reports on System 7, MacWEEK reveals that 73% of MVBs surveyed had "dirty" ROMs. User concern mounts as the System 7 release nears. Meanwhile, Connectix continues development of MODE32, the program that enables users to run System 7 in 32-bit mode. **MAY:** Connectix releases MODE32, enabling millions of Macs to use Apple's standard 32-bit mode and get complete System 7 compatibility. **JULY 16:** MacWEEK writes: "In our tests, MODE32 was completely solid. The software delivers exactly what it says it will."

**THE VALUE OF THE WEEKLY. WEDNESDAY SEPTEMBER 4:** Editor Henry Norr: "I heard something big was in the works between Connectix and Apple. They were sitting on a hot story. Time was tight for next week's issue, so I started making calls. **THURSDAY SEPTEMBER 5:** Connectix licenses MODE32 to Apple. Henry Norr: "I had the most of the information and cleared space on page one. I pushed for an advance release from Connectix and Apple and got it minutes before we went to press." **MONDAY SEPTEMBER 9:** MacWEEK's cover breaks the Connectix/Apple deal, giving readers the information they need to make buying decisions. **TUESDAY SEPTEMBER 10:** The Connectix/Apple press release goes into general distribution. Apple ships MODE32 as a free system upgrade and offers a full refund to everyone who purchased MODE32 from Connectix.

# MacWEEK

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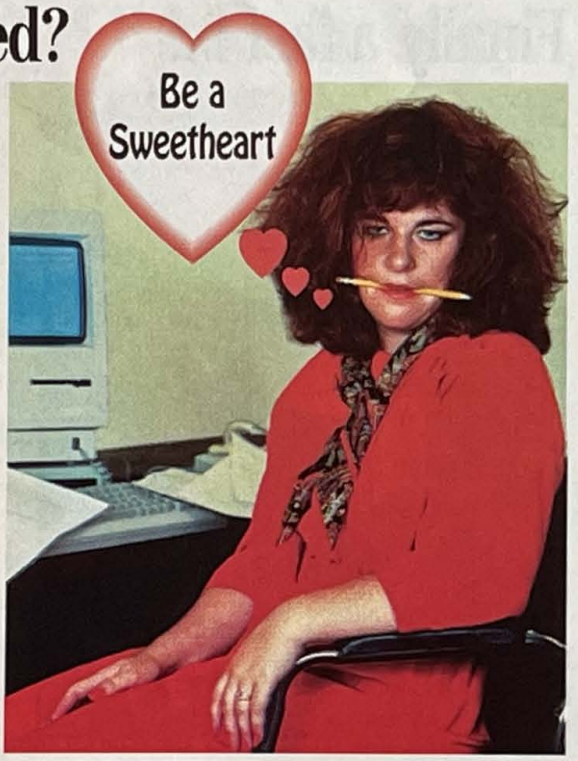


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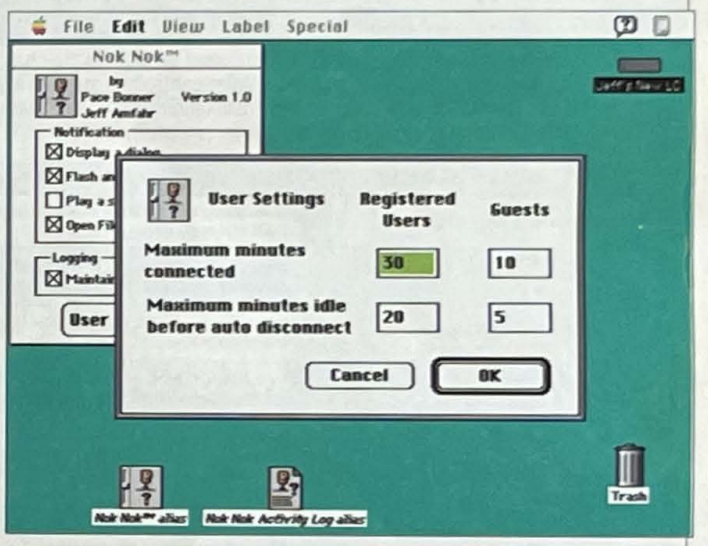


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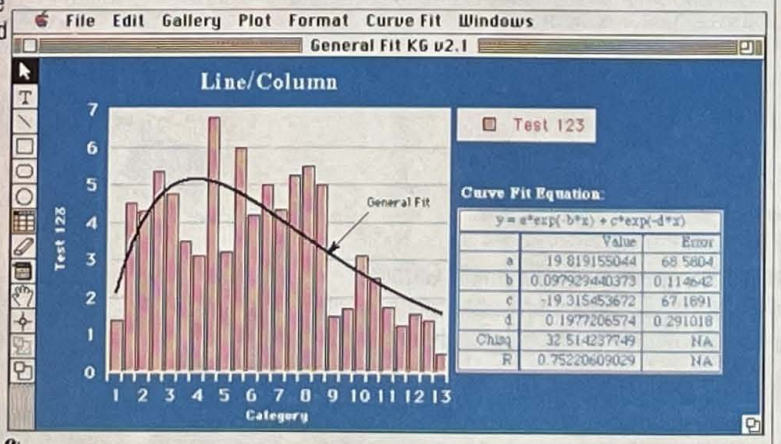


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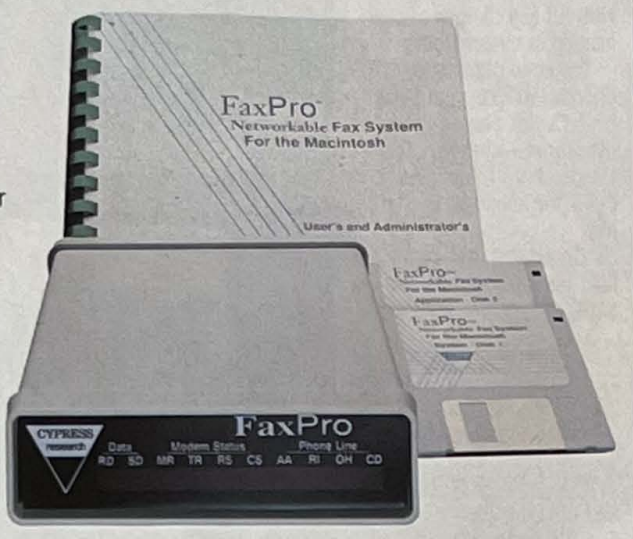


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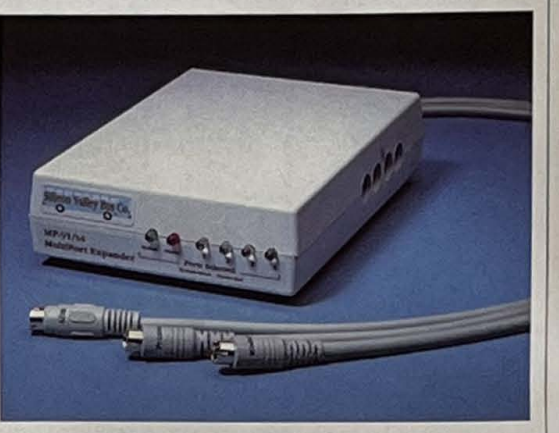

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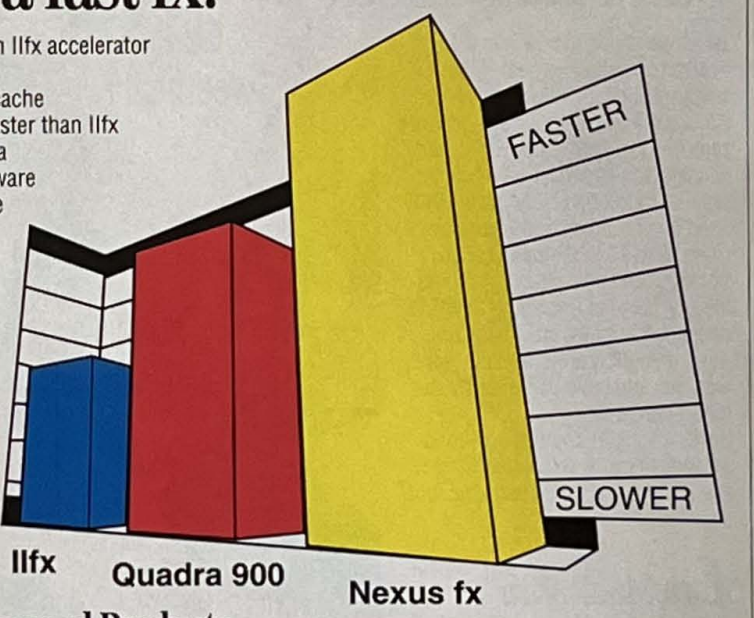


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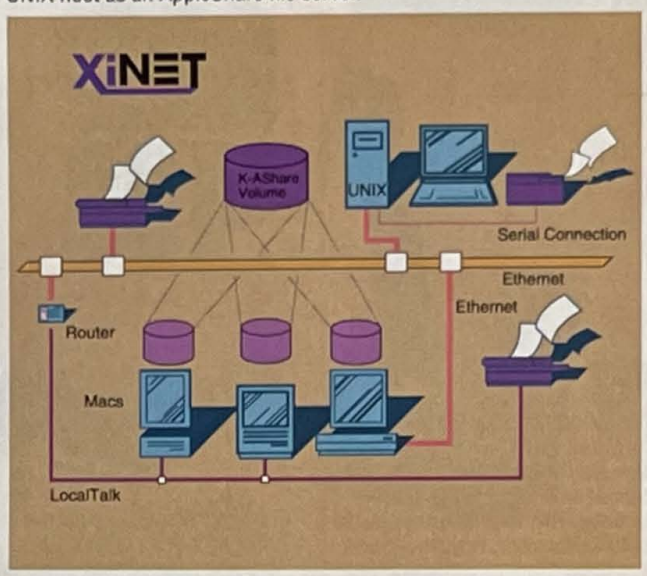


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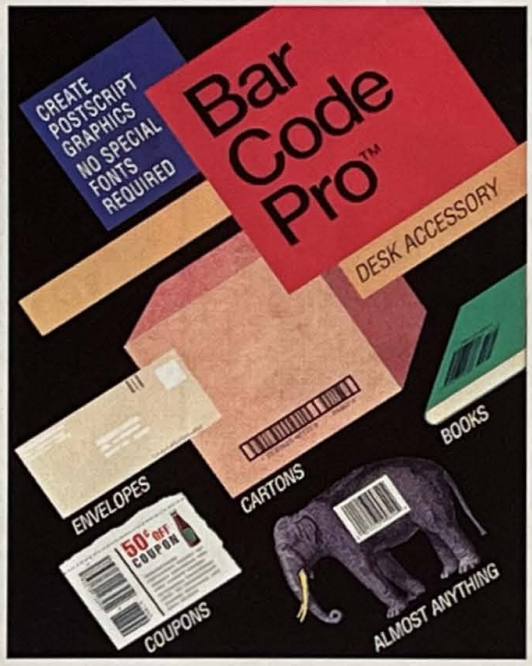


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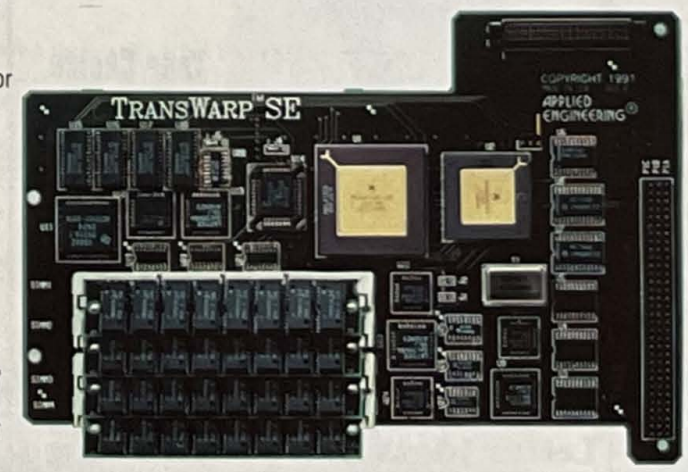


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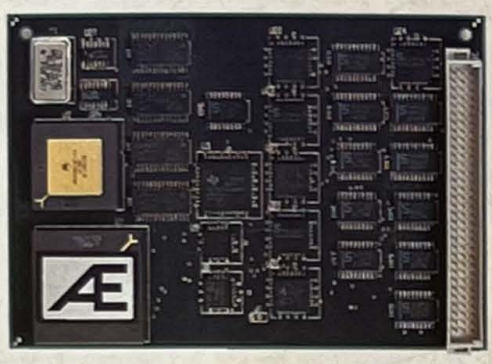

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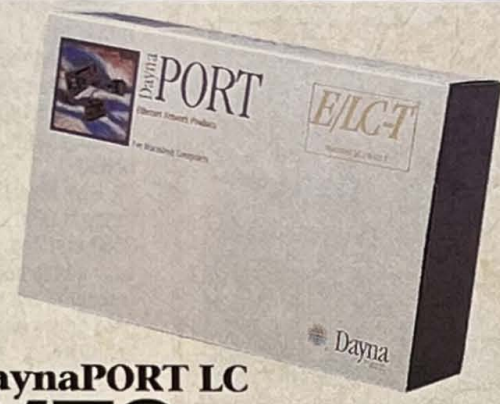
TransWarp LC provides high speed performance for the Macintosh LC. This 68030 CPU/68882 FPU upgrade helps eliminate the time you spend waiting for your computer. Desktop publishing, graphic design and CAD packages become fun again. Applied Engineering ❼ ✓ #4732

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DaynaPORT Ethernet adapters connect all Macintosh computers including the new LC, IIsi and Classic with thick, thin, 10BASE-T or fiber-optic cable systems. They support many network hosts. Based on the latest Ethernet technology, they provide high performance and reliability at exceptional prices. Dayna ❼ ✓ #0806

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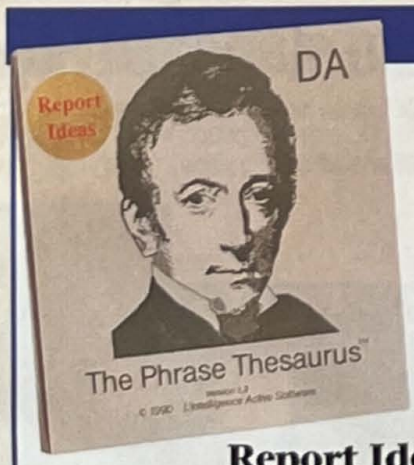


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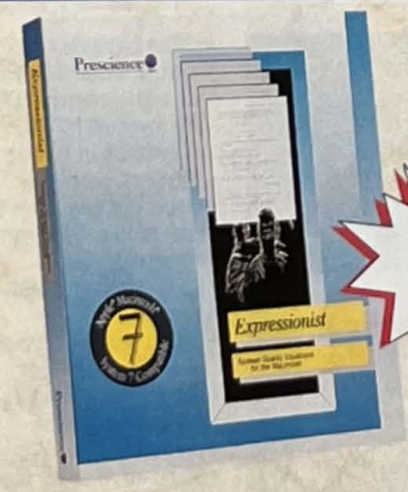


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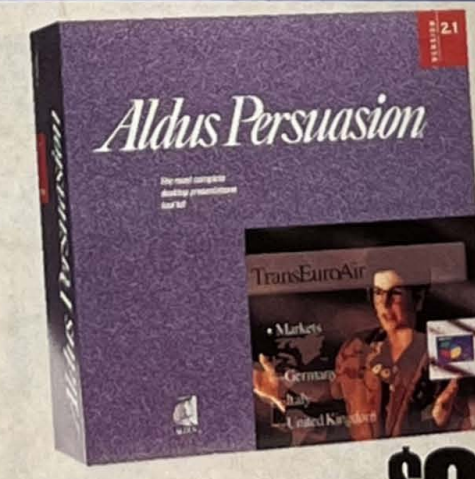


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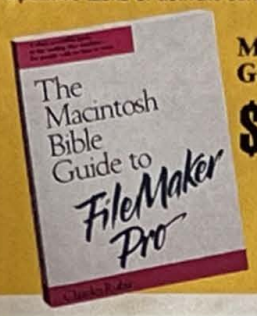


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## Databases

### FileForce

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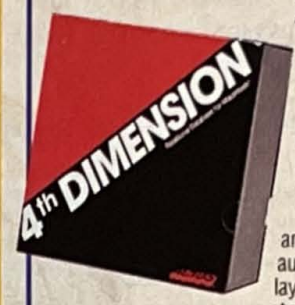
FileForce gives you the simplicity of file managers with the power of relational databases. Creates invoices that automatically look up customers, enters each line item into its own file, then computes extended prices, tax and total for you. Acius ❷ ✓ #3330

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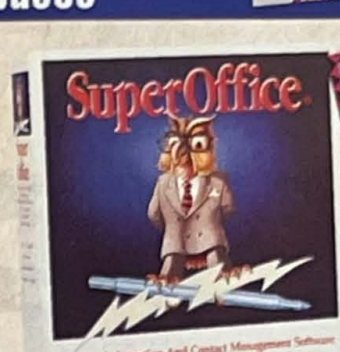


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**SuperOffice 5-User** ❷ #0957 ..... **$1399**

**SuperOffice 10-User** ❷ #0958 ..... **$1999**

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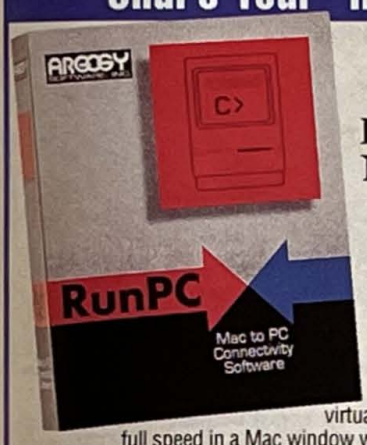


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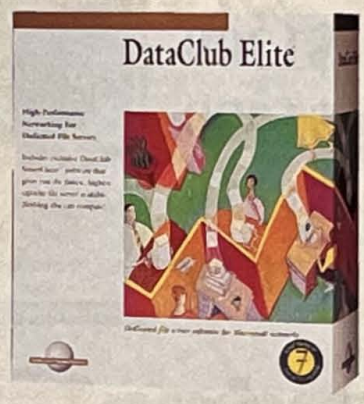
Connect your Mac to an IBM or PC compatible and run virtually any DOS program full speed in a Mac window while controlling it with the Mac. Includes Software Bridge/Mac for document translation. Argosy ❷ ✓ #4241

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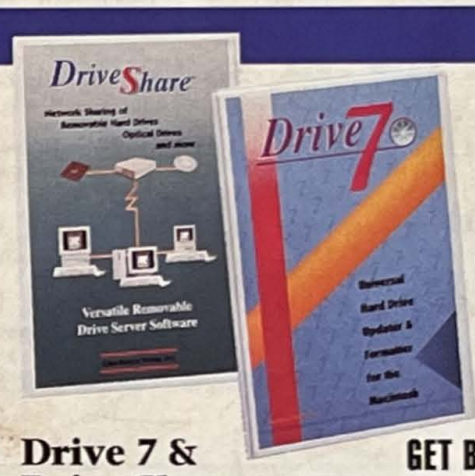
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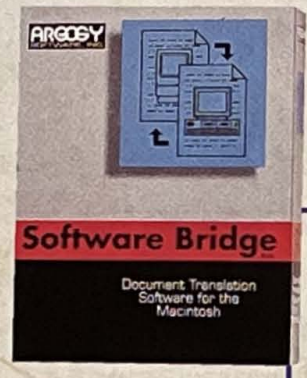


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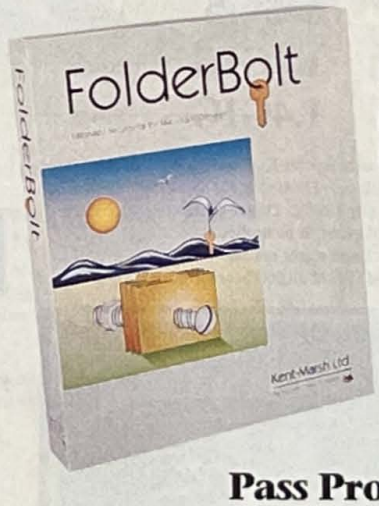


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**$73**

With a simple shift-click of the close box you can create completely locked folders, read-only folders or drop folders. Once locked they can't be opened, duplicated, deleted or moved without the password. Kent Marsh ❷ ✓ #0258

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PassProof is the first complete data security system for the Mac. Heavy-duty hardware includes disk drive lock, floppy and SCSI port plates. Kensington ❷ ✓ #4085

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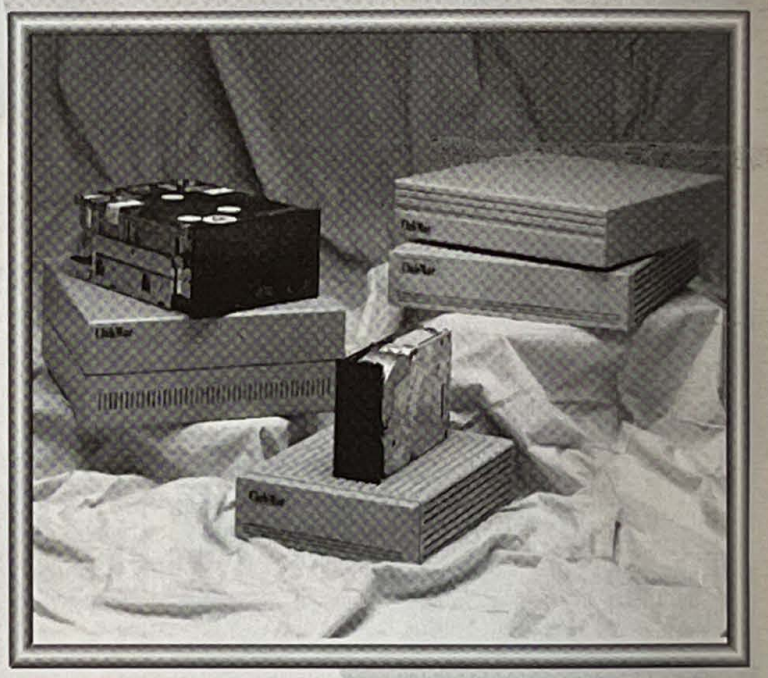
| 425mb | M2623SA | 3.5" Half Height | 9ms | $1179 | $1239 |
| 520mb | M2624SA | 3.5" Half Height | 9ms | $1249 | $1309 |
| 345mb | M2261SA | 5.25" Full Height | 16ms | $1189 | $1289 |
| 645mb | M2263SA | 5.25" Full Height | 16ms | $1259 | $1359 |
| 1.2GIG | M2266A | 5.25" Full Height | 11.5ms | $1919 | $2019 |



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# Maxtor®

**Maxtor 3.5" Drives include a ONE Year Warranty and Maxtor 5.25" Drives include a TWO Year Warranty.** Maxtor Drives include the ClubMac Package. Maxtor 80 and 120 are perfect for the Mac Classic, LC, and IIsi. *Internal Full Height Drives fit the Mac II, IIx & Quadra 900 only. (Add $10 for Quadra 900 bracket)

| Capacity | Model Number | Product Description | | Internal | External |
|---|---|---|---|---|---|
| 80mb | 7080 | 3.5" Low Profile | 17ms | $289 | $349 |
| 120mb | 7120 | 3.5" Low Profile | 15ms | $349 | $409 |
| 207mb | LXT-213 | 3.5" Half Height | 15ms | $589 | $649 |
| 330mb | LXT-340 | 3.5" Half Height | 15ms | $939 | $999 |
| 535mb | LXT-535 | 3.5" Half Height | 12ms | $1369 | $1429 |
| 645mb | XT-8760S | 5.25" Full Height | 16.5ms | $1379* | $1479 |
| 1.0GIG | PO-12S | 5.25" Full Height | 13ms | $1819* | $1919 |
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| 88mb SQ5110 | $589 |
| Dual 44mb | $779 |
| Dual 88mb | $1099 |
| Dual 44mb & 88mb* | $989 |
| 44mb Cartridge | $65 |
| 88mb Cartridge | $109 |

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| Teac MT-2ST/N50 | 155mb | $579 |
| Teac MT-2ST/F50 | 600mb | $779 |
| WangDAT 1300XL | 2.0GIG | $1295 |
| WangDAT 2000 | 5.0GIG | $1569 |
| Exabyte 8200 | 2.2GIG | $2095 |
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Automatic Envelope Feeder
Standard 250-sheet Paper Cassette
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- Built-in automatic envelope feeder and a standard 250-sheet paper cassette

# NEC

## Silentwriter 2 Model 990

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- Print Speed: 8 ppm
- Canon Engine
- 32 MHz RISC Processor
- Built in SCSI Port
- Auto-Emulation Switching
- TRUE Adobe PostScript • 35 scalable fonts
- 300 dpi high resolution • 2 MB RAM std, up to 4 MB
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$4599

- Genuine Adobe PostScript
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- MS-DOS and Macintosh compatible
- 300 dpi thermal transfer technology
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- AppleTalk Interface
- Built in SCSI Port

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CD Gallery provides your Macintosh with the ability to display pictures and illustrations, listen to live audio and experience motion graphics. Bundled with 7 of today's most popular and innovative interactive CD-ROM software programs, NEC's CD Gallery includes everything you need to be up and running instantly.

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  - Cosmic Osmo
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- Stereo Headphones • MAC Interface Kit

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THE INTERACTIVE CD-ROM SYSTEM FROM NEC

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NEC MultiSync Monitors
- include the Mac adapter
- includes ONE year warranty
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**NEC MultiSync 3FGx Color Monitor (15")** $689
- 15" diagonal • 0.28 mm dot pitch • Flat square, non-glare, anti-static, high contrast surface
- 1028 X 768 non-interlaced resolution

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- NEC's exclusive AccuColor Control System • 15" diagonal • 0.28 mm dot pitch
- Flat square, non-glare, anti-static, high contrast surface • 1028 X 768 non-interlaced resolution

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- Includes on-board QuickDraw acceleration for faster graphics processing
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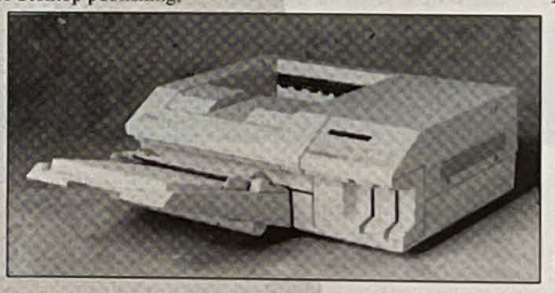
## Epson EPL-7500 Laser Printer $1875

The Epson EPL-7500 is ideal for the Macintosh® for desktop publishing, graphics design and document proofing. By integrating a high-speed RISC processor, the EPL-7500 significantly reduces the time necessary to prepare and print the first page of output.



***Features...***
- TRUE Adobe® PostScript®
- 300 dpi • 35 resident fonts • 6 ppm print speed
- 2MB RAM, expandable to 6MB
- 250 sheet paper tray
- National Reseller Service Program
- HP LaserJet® Series II emulation
- Epson's 2-year limited warranty

# EPSON

**It leaves the competition looking pale. The Epson ES-300C Scanner at ClubMac.**

## Epson ES-300C Color Scanner

Save an Additional $1,000 in Software
- Adobe Photoshop LE
- ScanTastic (Photoshop Plug-In)

Special !!

When it comes to capturing true color with sharpness and clarity of image, no other scanner matches the Epson ES-300C. It's the ideal desktop scanner for page layouts, capturing scrap art, developing on-page or on-screen business presentations, sales training and literature and OCR.

$1049

***Features ...***
- **24-bit COLOR scanning** produces 16 million different colors & 8-bit monochrome scanning that produces 256 shades of gray
- Up to **600 dpi**
- National Reseller Service Program
- OCR Compatible
- Epson's TruePass Scanning System (3 separate light bars for advanced **ONE-PASS** scanning)

Epson ES-300C, the scanner that will capture both your images and your imagination.

**FREE! FREE! FREE!**
**$2,000 IN SOFTWARE**
- ColorStudio • ImageStudio • ScanDo/DA

**ClubMac Package . . .**
- **Internal Drives** include mounting brackets, cables, and ***SCSI* Director™** Formatting Utility.
- **External Drives** include a 25/50 pin SCSI cable, power cable, ***SCSI* Director™** Formatting Utility, and a zero-footprint cabinet (two 50 pin SCSI ports, removable termination, and auto-switching power supply)
- All hard drives come pre-formatted and tested • All drives have internal termination • Termination can be removed upon request
- Daisy chain cable substituted upon request.
- All capacities and speeds are manufacturer's specs. Actual specs may vary.

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- Visa and Mastercard accepted. No surcharge. Credit card orders are billed at time of shipment.
- Prices good for stock on hand. All prices, product specifications, features and system requirements are subject to change w/o notice. Not responsible for typographical errors.
- University POs accepted with NET 30 terms. Corporate POs accepted upon APPROVAL.
- All shipments are FOB origin. Prices do not include freight. COD orders accepted, limit $1500.
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- **Warranties . . .**
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- All items carry manufacturer's warranty. † Restrictions apply.

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- ClubMac provides 30 day money back guarantee on all other products if manufacturer offers guarantee.
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**Monitor Special!**

Samsung 20" .....$598
Sampo 20" .....$698
- Two Page display
- Perfect for DTP & CAD/CAM
- Includes Interface card

**14" Direct Color...$298**
- Plug compatible with the Mac LC

**14" Sony Trinitron...$498**
- Plug compatible with the Mac LC

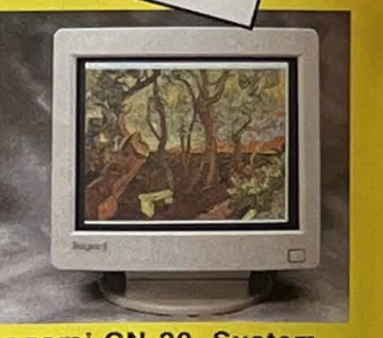
**14" Goldstar Color $368**
- Plug compatible with the IIsi, CI and the LC

**Samsung 20" Mono System $598.00**

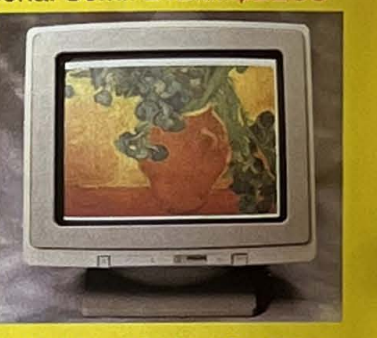
**Sampo 20" Mono System $698.00**

**Grey Scale System $998.00**

- We have made a special purchase of these monitors, specially priced while supplies last!
- Includes 1 bit or 8 bit Video board and cable
- 2 page displays
- Tilt & Swivel base
- Support all Mac IIs', the SI, SE-30, SE and the LC



**20" Ikegami CN-20 System**
W/RasterOps 8Bit.....$1598
W/National Semi. 24Bit...$2298



**16" Philips Color System**
8Bit System .....$1198

**20" Ikegami Trinitron System**
W/RasterOps 8Bit.....$2398
W/Natl. Semi. 24Bit.....$3198

## UMAX 600 DPI COLOR SCANNER

**UC-630 With PhotoShop .....$1298.00**
- 8 1/2 x 14 Scanning area
- Includes full release vers. of Adobe Photoshop 2.0
- Rated fastest by MacUser(Dec '91)
- Rated four mice by MacUser (Dec '91)
- "Boasts the highest vertical resolution" MacUser 12/91

**DirectScan 600 With PhotoShop .....$1198.00**
- 8 1/2 x 14 Scanning area
- Includes full release vers. of Adobe Photoshop 2.0

## DIRECT FX *Mach-50* 50 MHZ ACCELERATOR 998.00!

**Direct FX *Mach-50* 50 MHZ Accelerator .....$998**
- **Get near Quadra speeds without the imcompatibilities or the high price!**
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# MACDIRECT

**Specialists in Mac Storage**

## Fujitsu Special!

Fujitsu 520MB Int. .....$1258
Fujitsu 1.2 Gig Int. ....$1988
- 5 Year Warranty
- 200,000 Hrs MTBF
- 9 to 11.5ms access time!
- Incredibly Reliable!
- Perfect for the Power User

- All 3.5" Drives are available in zero footprint (including a 40 watt power supply, and dual AC outlets), or micro cabinets as well as internal for all Mac's.
- All 5.25" Drives are available in zero footprint external (including a 65 watt power supply, cables, and ext. terminators) or as internals for the Mac II, IIx, and IIfx.

## Fujitsu Drives

| | | Internal | External |
|---|---|---|---|
| 45 MB | 3.5" Low Profile/Low Power 3yr warr, 50,000MTBF | $198 | $258 |
| 90 MB | 3.5" 3yr warr, 50,000 MTBF | $298 | $368 |
| 135 MB | 3.5" 3yr warr, 50,000 MTBF | $378 | $448 |
| 185 MB | 3.5" 3yr warr, 50,000 MTBF | $498 | $568 |

- Incredibly reliable less than .0006% returned on the 45mb!
- 3 year warranty! 50,000 hours MTBF (Mean Time Between Failure)

| | | | |
|---|---|---|---|
| 330 MB | 3.5" 9ms Access | $1138 | $1238 |
| 425 MB | 3.5" 9ms Access | $1188 | $1288 |
| 520 MB | 3.5" 9ms Access (The Fastest 3.5" Available!) | $1258 | $1358 |

- Incredibly fast the PB-4 drives are the fastest 3.5" drives we have tested!
- 5 year warranty! 200,000 hours MTBF (Thats 22 years of continuous operation!)

| | | | |
|---|---|---|---|
| 680 MB | 5.25" 16ms 5 yr warr., 200,000 MTBf* | $1288 | $1388 |
| 1.2 Gig | 5.25" 11.5ms 5 yr warr., 200,000 MTBf* (MacWorlds Fastest Gig!) | $1988 | $2088 |

- MacWorlds fastest 1.2 Gig drive (July '91)
- 5 year warranty! 200,000 hours MTBF (Thats 22 years of continuous operation!)

*Mean Time Between Failure is the average life expectancy of a drive.

## Hitachi Drives

| | Internal | External |
|---|---|---|
| **420 MB** 3.5" 5 yr warr. 13ms 150,000 MTBF* | $998 | $1098 |

- The Hitachi 420 is our best value drive ever!

**1.6 Gig** 5.25" 5 yr warr. 12ms 150,000 MTBF* ..... $2798 ..... $2898

- The Hitachi 1.6Gig is our largest drive available!

*Mean Time Between Failure is the average life expectancy of a drive.

## Ricoh Optical

**600mb Optical.....$1998.00!**
- Read write reliable storage
- Great for archiving, color scans, etc.
- Includes cartridge.
- Available in ISO andnon-ISO

## CD ROM Drives

**Toshiba 3301 ..... $568**
- Includes driver CD carrier and cables
- 325ms access time
- MacWorld and MacUsers Highest Rated CD-ROM!

**Chinon CDC-431 ..... $598**
- Includes driver CD carrier and cables,
- 350ms access time, includes 12 function audio remote control

## SyQuest 44MB & 88MB Removables

**44MB Removable ..... $448.00**

**88MB Removable ..... $648.00**
- 19ms Access time
- Both Drives include Cartridge
- Dual AC Outlets, 40 Watt power supply
- SCSI Select and 2 Year Warranty

## Quantum Drives

| | Internal | External |
|---|---|---|
| Q 52 MB 3.5" LPS | $248 | $338 |
| Q 105 MB 3.5"LPs | $368 | $448 |
| Q 120 MB 3.5" | $448 | $548 |
| Q 170 MB 3.5" | $598 | $688 |
| Q 210 MB 3.5" | $688 | $748 |
| Q 425 MB 3.5" | $1298 | $1398 |

## DAT Tape Backup

**WangDat 2.1 Gig Capability ..... $1498**
- Up to 10 mb per minute backup time
- Includes SoftBackup II for Fast network and unattended backup capabilities

**ArDat 2.1 Gig Capability..... $1398**
- Up to 10 mb per minute backup time
- Includes SoftBackup II for Fast network and unattended backup capabilities

## SONY 2.1Gig DAT $1248!

**Sony 2.1 Gig DAT ..... $1248**
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- Our best buy ever on DAT !
- Limited availability
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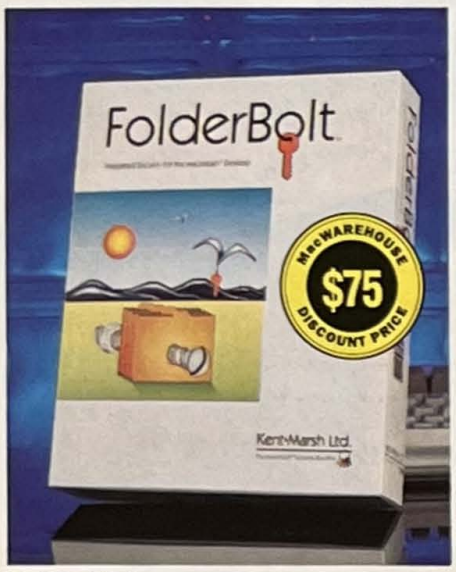



## FolderBolt

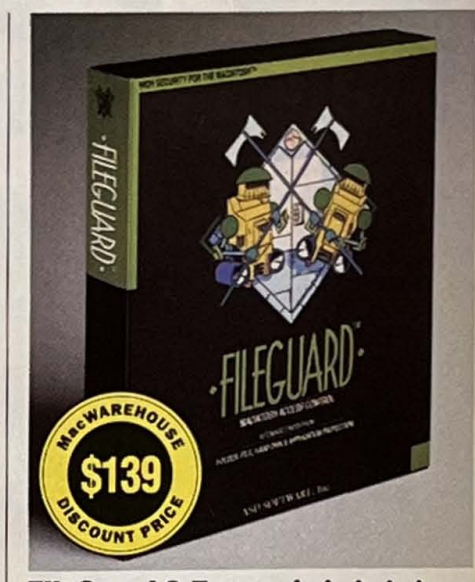
**(Kent Marsh)** "FolderBolt compliments the desktop...Subtle yet sensible...Takes the edge off security...Redefines standards." MacTutor July 1991. Simply shift-click to create completely locked folders, read-only folders, or drop folders. Once locked they can't be opened, duplicated, deleted or moved until you double-click & provide the password. Features complete unlocking at start up, activity logging, and locking at shutdown. Includes full administrator override. FolderBolt is a welcome addition to the Mac security arsenal MacWeek June 1991. The only desktop security that's System 7 Savy. **UTI0212**
***FaxFACTS 6549***

## After Dark/More After Dark Bundle

**(Berkeley Systems)** **After Dark 2.0** displays over 35 screen savers including Flying Toasters and Fish!. Many modules include sound effects. SystemIQ monitors activity so that After Dark won't slow down long file transfers, database sorts, or backups. Password protection maintains your privacy when you leave your machine. **More After Dark** has over 25 fascinating new displays. It includes the Virex-D virus detector module, plus Mowin'Man, Tunnel, GraphStat, and many beautiful fish. Crazy Kittens, Art Museum, and Lunatic Fringe game module will entertain you and prevent screen burn-in. (Requires After Dark software) **UTI0231**
***FaxFACTS 6564***

## Universal PowerCache

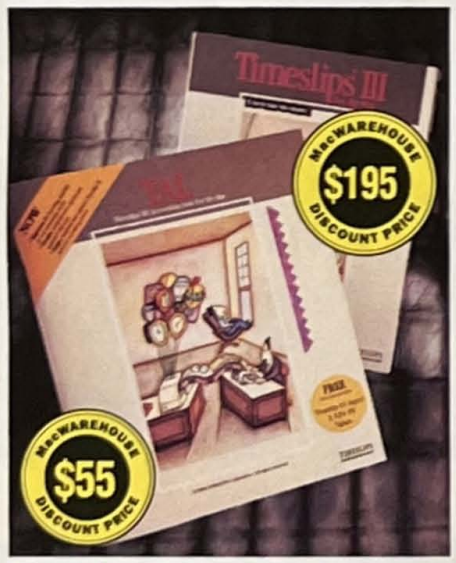
**(DayStar)** Get 100% compatibility with 33,40, 50 MHZ PowerCache. Here's the affordable way to get the maximum from your software. DayStar's proprietary technology combines a blazing fast 68030 processor with a superfast RAM cache. Now you can get '040 performance with proven '030 compatibility including System 7.0 virtual memory. Accelerates virtually every function in all applications. An optional math chip is a real time-saver for spreadsheet recalcs and scientific tasks. The universal design makes it easily transportable to almost every Mac including the SE/30, II, IIx, IIcx, LC, IIsi & IIci. Guaranteed 100% compatible. **40 MHz w/882** ***FaxFACTS 4904***




## FileGuard 2.7

**MacUser Rating 4/91**

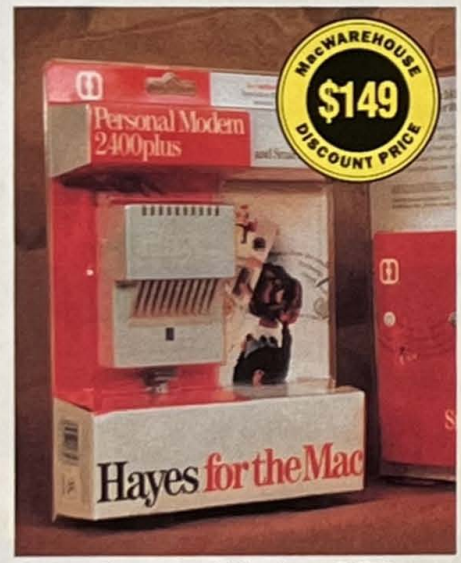
**(ASD Software)** "It's sleek,fast, and safe. I highly recommend it.". MacUser April, 1991. Protect your Hard Drives and Partitions from unauthorized access (including security bypass with a system diskette), copying and erasure; Applications and File/Folders (including system folder) from unauthorized access, deletion, and/or illegal copying; Desktop (including system folder) from alterations by unauthorized user; Keep an eye on System Usage with the system users log which continuously tracks user/group activity. System 7.0 compatible. **UTI0135** ***FaxFACTS 6806***




## Timeslips III 2.1 *New Version*

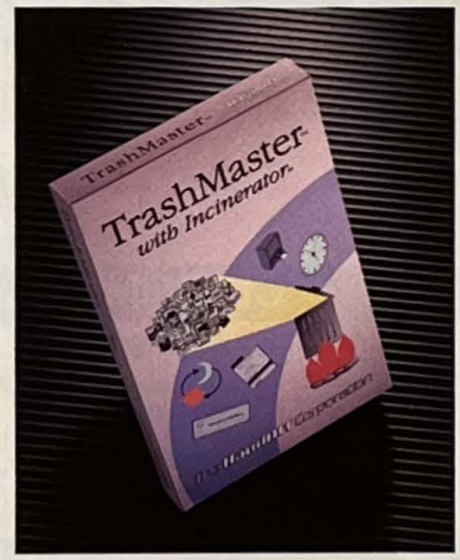
**(Timeslips Corp.)** A complete time keeping and billing package for people whose stock in trade is their time. You gather time data with TS timer DA. When the time comes to send the bill, TS Report will extract the data and generate invoices and reports in a wide variety of formats. Handles the big jobs: 250 users, 250 different activities, and over 3,000 clients, with up to 128 projects per client. **BUS0043**
***FaxFACTS 1562***

**TAL-Timeslips Accounting Link** extends Timeslips III with or without general ledger accounting software. Generates customized income reports; links the billing and payment data from Timeslips III to accounting programs. **FIN0129**
***FaxFACTS 1550***




## Hayes Personal Modem 2400 Plus with Smartcom

**(Hayes)** Provides you with everything you need to go on-line. This 2400 baud modem has a built-in call-monitoring speaker and two LEDs, plus both phone and computer cables. Included in the package is the Smartcom terminal software to make using your modem simple and convenient. It fully supports the Mac interface. It also emulates popular terminals, such as TTY and VT54/102, to make mainframe and mini access easy. File transfer protocols include XModem, and MacBinary. Smartcom even allows you to automate log-ons. **MOD0060**
***FaxFACTS 5100***




## TrashMaster

**(HandOff Corporation)** Keep precious disk space free and precious data from falling in the wrong hands. TrashMaster automates the handling of your trash with the creation of versatile trash "filters". Set it to empty all files over 1 week old when you shutdown or all files larger than 100K when you eject a floppy. TrashMaster will automatically erase (per United States Department of Defense specifications) the files you choose whenever your trash is emptied. You can also select individual files or folders from a convenient hierarchical trash menu. Get TrashMaster for safe, convenient trash management. **UTI0255** ***FaxFACTS 6527***

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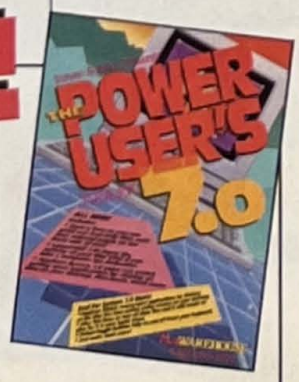
The NEW Power User's Tool Kit 7.0 is FREE from MacWAREHOUSE when you order from us. If you want the disk, ask for product code number **AAA0013**. You pay only $1.50 for shipping and handling. The programs are shareware, so you can try them free of charge. If you wish to continue using them, some authors ask that you pay a small fee ($5-$25). All the details are explained on the disk, which is yours to keep.

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# Why your next Apple computer should be a RealTech notebook.

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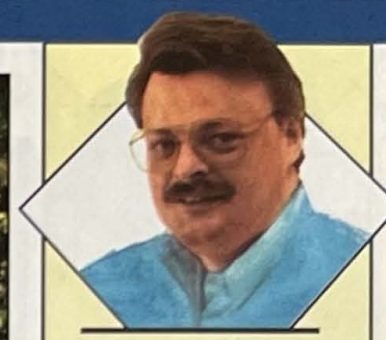
**6 reasons you should own a RealTech TRAVLER:**

- *8 Mb of RAM*
- *80 Mb hard drive (Apple's 170 only has 40 Mb)*
- *25 MHz 68030E*
- *Math coprocessor*
- *6.25 lbs.*
- *8.5" x 11" x 2"*

***FREE! Includes DayMaker software ...a $99 value!***

**Only $3495!**



***"My ad agency got really mad at me about this notebook computer.***

*Like me, they're very excited about the benefits—and price—of the RealTech TRAVLER. We'd spent a lot of time thinking about what you'd want in a notebook computer, and in figuring out how to improve what was already on the market.*

***To make a long story short, we achieved our goal. The RealTech TRAVLER is more powerful than the Apple PowerBook 170; it has more RAM, a bigger hard drive, and more standard features. All that, and it's priced over $1000 lower!***

*So why is my ad agency mad? Because I wouldn't give up our prototype to be photographed. (We only had one TRAVLER in hand when we began work on this ad.)*

*In less than a week, I became so attached to my TRAVLER that I wouldn't give it up, even for a day. I do a lot of traveling, and it quickly became indispensable. I made the agency wait 'til TRAVLERs were rolling off the line, then sent the agency one to shoot for this ad.*

***Now I have another problem...I can't get the agency president to return it. After she used it for a day, she was hooked, too!"***

*Réal Provencher*
President
Hardware That Fits

*P.S. As on all RealTech products, I offer a 30-day money-back GUARANTEE. If you're not happy with it, I'll buy it back!*

## Real Tech™ TRAVLER

**Don't judge a book by its cover!**

| | RealTech TRAVLER 880* | Apple PowerBook 170 |
|---|---|---|
| **Price** | $3495 | $4599 |
| *Pros* | Motorola 68030E 25MHz | Motorola 68030 25MHz |
| | 8 Mb RAM (upgradable to 14 Mb) | 4 Mb RAM (upgradable to 8 Mb) |
| | 80 Mb hard drive | 40 Mb hard drive |
| | Math coprocessor | Math coprocessor |
| | 1.44 Mb SuperDrive compatible | 1.44 Mb SuperDrive |
| | SCSI port | SCSI port*** |
| | Camcorder battery (3 hours) | NiCad battery (3 hours) |
| | Backlit LCD display | Backlit active matrix screen |
| | 640 x 480 resolution | 640 x 400 resolution |
| | SCSI cable included** | 2400 baud modem/9600 send fax |
| | DayMaker software ($99 value) | — |
| *Cons* | | Very expensive |
| | | Limited to 8 Mb RAM |
| | | Costly accessories |
| | | ***Needs special SCSI cable sold only by Apple |

**TRAVLER 880 (8 Mb RAM, 80 Mb HD) — $3495*
*TRAVLER 1480 (14 Mb RAM, 80 Mb HD) — $3995*

**Connects to other computers via SCSI port for data transfer

# TAKE IT...OR LEAVE IT.

***Packed with double the value of Apple's PowerBook 170...***

This is a real computer that will work in the everyday real world, not just in somebody's lab. We put in enough memory and hard drive to meet your needs today *and* tomorrow. The *RealTech TRAVLER 880's* high-speed, high-capacity 80 Mb hard drive, 8 Mb of RAM and 1.44 Mb floppy drive make reading, loading and transferring files fast and easy. It even uses an easy-to-find camcorder battery, which can recharge while the *TRAVLER* is in use.

***8 Mb of RAM & 80 Mb hard drive!***

The *RealTech TRAVLER* has 8 Mb of RAM, upgradable to 14 Mb (nearly double the RAM of the Apple PowerBook 170)... enough memory to run almost any Macintosh program. (The *TRAVLER 1480* has a whopping 14 Mb of RAM!) And with its high-speed, high-capacity 80 Mb hard drive, there's plenty of storage.

***Can be connected to any Macintosh desktop computer.***

Unlike the Apple PowerBook 170, the *RealTech TRAVLER's* SCSI port and cable (included free) make it easy to connect to any Macintosh computer with a SCSI port. Upon start-up, the *TRAVLER's* hard drive and floppy will appear directly on your Macintosh desktop, just like any other hard drive or floppy. You no longer need to maintain two versions of each file (one for the desktop Macintosh and one for your notebook), since all of your files will permanently reside in the *TRAVLER*. When you're ready to leave the office, just shut down the desktop Macintosh, disconnect the *TRAVLER's* SCSI cable, and you're on your way. No more disk swapping to maintain your files.

***Takes the place of a Mac IIci. So you only need one computer, not two.***

Now you only need one computer for office and travel, and only ONE set of datafiles! The *RealTech TRAVLER* is so powerful it can double as your desktop computer. When you add an optional full-page display or 21" dual-page display, mouse, and keyboard, its specifications are comparable to a Mac IIci. So why would you buy one of those when you could own a *RealTech TRAVLER* that you can take with you?

***The RealTech TRAVLER is fully authorized by Apple Computer, Inc.***

It's the best portable solution available. *When has the decision to buy a computer ever been such an open and shut case?*

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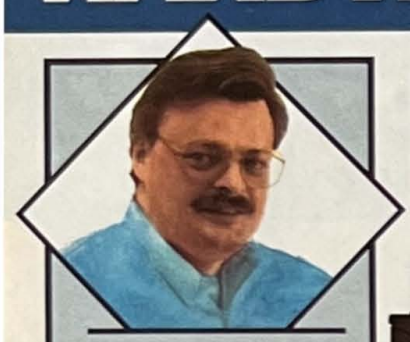
# HARDWARE THAT FITS If you don't like it,



***"I've been in this business for six years, and I've NEVER been this excited about printers!***

*PostScript® Level 2 is the next generation of Adobe's page description language. It contains a number of significant performance and print quality enhancements, and is compatible with all current applications which support the PostScript® language.*

***Best of all, the time-saving features of PostScript® Level 2 are available RIGHT NOW in our RealTech Laser and RealTech Laser 400:***

• **IMPROVED MEMORY MANAGEMENT.** One pool of memory is available for all resource needs. Dynamically allocated and automatically reclaimed; no arbitrary memory restrictions exist. Better disk space management eliminates fragmentation and improves transfer of information from hard disk to RAM.

• **ATM FONT RENDERING TECHNOLOGY.** Raw characters are built 4 to 5 times faster.

***Features available through software applications:***

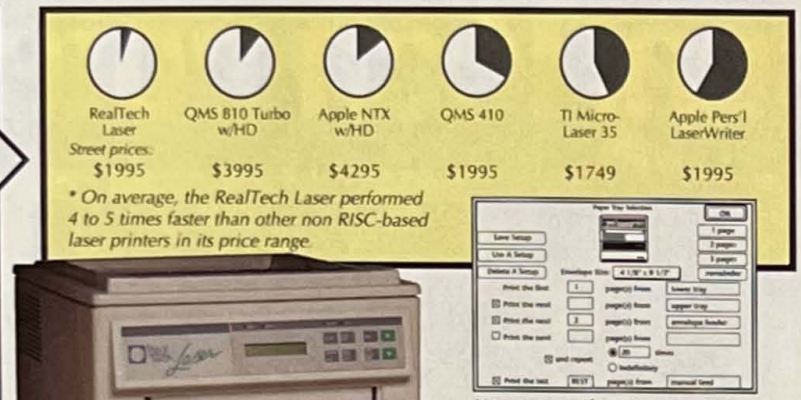
• **COMPRESSION.** Reduces transmission time by sending compressed files directly to the printer.

• **FORMS SUPPORT.** You can define a base form whose representation stays cached in the printer.

• **COMPOSITE FONTS.** Handles very large character sets and non-horizontal writing modes."

*Réal Provencher*

President
Hardware That Fits




** On average, the RealTech Laser performed 4 to 5 times faster than other non RISC-based laser printers in its price range.*

*You can specify up to 4 paper changes without moving anything but your mouse!*

**RealTech Laser**

## Only $1995!

## 500% faster!*

- RISC processor
- 2 paper trays
- 9 pages/minute
- SCSI port

***2 Mb RAM, upgradable to 10 Mb!*** *The only printer of its kind with this much RAM and hard disk expansion capability.* Includes a SCSI port for a hard disk. The RealTech Laser includes 35 resident PostScript® typefaces. Compact design (only 33.5 lbs.; measures 13.4"W x 14.2"D x 10.9"H).

***PC-compatible; its 3 interface ports can be used at the same time.*** Includes Appletalk® RS-422, IBM PC parallel, and RS-232-C serial interface ports (can be assigned either PostScript® or LaserJet II commands). Auto switches between interfaces, and spools files on a real-time basis. A Hewlett-Packard LaserJet Series II emulation allows use with non-PostScript® applications software.

POSTSCRIPT® Software From Adobe LEVEL 2

**The RealTech Laser and RealTech Laser 400 were specifically designed for sophisticated graphics and font-intensive applications.** For speed and performance, they're based on a RISC-based (Reduced Instruction Set Computing) processor and PostScript® Level 2 software from Adobe.

## TWICE THE PRINTER.

### 400 dpi, 11x17 printer

### High speed!

- RISC processor
- 16 ppm (letter size)
- 8 ppm (11x17)
- SCSI port
- 2nd paper tray

**RealTech Laser 400** **Only $4495!**

***4 Mb RAM, upgradable to 16 Mb!*** Prints 400 dpi, or high speed (16 ppm) at 300 dpi. 35 resident PostScript® typefaces. Compact design (20.25"W x 16"D x 11.75"H) weighs 80.5 lbs. 20,000 pages/mo. duty cycle. Call for other technical specifications.

Adobe® and PostScript® are registered trademarks of Adobe Systems Incorporated.

## Affordable printing...

***from Texas Instrument's compact PostScript® printers.***

**$1939**

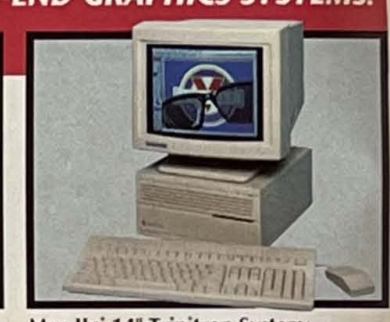
**TI TurboLaser™.** 300 dpi with Adobe PostScript Level 2 and RISC-based processor. 2.5 Mb RAM. Nine pages per minute; 35 resident fonts; 10,000 pages per month duty cycle. Optional accessories: 2nd paper tray, SCSI interface.

**$1249**

**TI MicroLaser™ Plus.** 300 dpi with HP LaserJet Series II emulation standard. 1.5 Mb RAM. Nine pages per minute; 17 resident fonts; 3,000 pages per month duty cycle. Optional accessories: 2nd paper tray, separate envelope tray.

## WE SPECIALIZE IN HIGH-END GRAPHICS SYSTEMS!

**Mac IIsi 14" Trinitron System:**
5 Mb RAM, 105 Mb Quantum, Mac-Pro Plus Keyboard.....3629



**Mac IIci 14" Trinitron System:**
5 Mb RAM, 105 Mb Quantum, Mac-Pro Plus Keyboard, Cache Card ...4215

**Mac IIfx 19" Trinitron System:**
1 Floppy Drive, 8 Mb RAM, 303 Mb MicroNet Hard Drive, 24-bit Color Monitor and Video Card, MacPro Plus Keyboard.....8895

**Mac IIci B/W 21" Dual-Page System:**
5 Mb RAM, 105 Mb Quantum, MacPro Plus Keyboard.....4595

**Seiko/RasterOps 24-Bit Bundle** **$979**

High-resolution Trinitron tube...view 16 million shades of color! 640 x 480 resolution, 72 dpi. 14" display has integrated tilt & swivel base. Includes RasterOps 24S video card. ***It's 43% brighter than the leading competitor!***

RasterOps CONNECTION

***We've been an authorized RasterOps dealer for over 3 years, and can support them with top-quality service and warranties.***

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| ColorBoard 24S | 379 |
| ColorBoard 24SI | 669 |
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| ColorBoard 264SE/30 | 599 |
| ColorBoard 8LC | 599 |
| ColorBoard 8XL | 469 |
| CorrectColor Calibrator | 2019 |
| ImagePak Still Compression | 335 |
| TV Tuner | 335 |
| 14" Trinitron 24-bit | 979 |

**RasterOps 24XLTV 21" Color System** **$5819**

***The latest in 24-bit technology.*** Live video and on-board acceleration, 16.8 million colors, 72 dpi, 75 Hz refresh rate. A full two pages of vibrant color!

**FAX: 1-409-539-4141**

*All prices are subject to change without notice.*

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# we'll buy it back! 1-800-972-3018

**RealTech Dual Page 21" Display** **$995**

No more squinting and scrolling! Flicker free monochrome technology...true WYSIWYG! 21" landscape display with 1152 x 870 resolution, 74 dpi. Vertical refresh rate of 75 Hz, full gray scale capability, and flat CRT (P4 phosphorus, polished screen). One-year warranty.

| CPU | Monitor | Price |
|---|---|---|
| Mac SE | Mono | **$995** |
| Mac II, IIcx, IIci IIx, IIfx, SE30 | Mono<br>GS 256 | **995**<br>**1479** |
| Mac IIsi | Mono | **1059** |

**RealTech Full Page Display**

**$579**

Quality, flicker free images at a price that lets you experience the convenience of large screen viewing.

15" portrait display has 870 x 640 resolution, 80 dpi. Vertical refresh rate of 74 Hz, full grayscale capability, and flat CRT, (P4 phosphorus), polished screen. One-year warranty.

| CPU | Monitor | Price |
|---|---|---|
| Mac II, IIcx, IIci, IIx, IIfx, SE, SE/30 | Mono | **$579** |
| Mac II, IIcx, IIci IIx, IIfx | GS 256 | **1079** |
| Mac IIsi, IIci | GS 16 | **495** |

**$1399**

## Microtek 600 DPI Scanner

***Scanmaker 600ZS Color Scanner includes Adobe Photoshop — full version, with 24-bit color editing and color separation capabilities.***

High-resolution color scanner capable of scanning 16 million colors at up to 600 dots per inch. Outstanding image quality in a compact, flatbed design.

- 16.8 million colors
- 3 scanning passes (red, green and blue filters)
- 14 brightness settings for each color plane
- Scanning speed 150 seconds

**Call** for special pricing

**Microtek Scanmaker Slide Scanner.**

***The affordable 35mm color slide scanner.*** Scans landscape or portrait slides at 1850 dpi. Captures 24-bit color and 8-bit grayscale. Bundled with PhotoShop, you'll be able to produce 4-color separations from your color slides. A great scanner at a great price!

**WE ONLY SELL NAMES YOU CAN TRUST**

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## INTRODUCING *the RealTech Trinitron*

**RealTech Trinitron Systems** **$2899!**

***The monitor solutions that break the price barrier for 19" Trinitrons!***

Our **24-bit system** includes the RealTech RT-24 video card with pan-zoom and extended desktop and G-world support. Socketed for up to 16 Mb of RAM! State-of-the-art engineering. On-board QuickDraw acceleration, 75 Hz vertical refresh rate. View 16.8 million colors at 72 dpi! 1024 x 768 resolution. Our **8-bit system** includes the RealTech RT-8 video card...an affordable 19" color system!

| CPU | Monitor | Price |
|---|---|---|
| Mac II, IIx, IIcx, IIsi*, IIci, IIfx, SE/30, LC, Quadra 700 & Quadra 900 | 8-bit system | **$1899** |
| Mac II, IIx, IIcx, IIci, IIfx, Quadra 700 & Quadra 900 | 24-bit system (accelerated) | **$2899** |

**IIsi solution retains PDS slot for the RealTech cache card.*

### PLI (Peripheral Land)

| | |
|---|---|
| Infinity Turbo 44 | 629 |
| Infinity Turbo 88 | 829 |
| Quick SCSI w/cable | 349 |

### QUANTUM HARD DRIVES

Reliable drives backed by a two-year warranty.

***Internal Hard Drives***

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| Q 52LP | 249 |
| Q 105LP | 369 |
| Q 210S | 709 |
| Q 425S | 1389 |

***External Hard Drives***

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|---|---|
| Q 52LP | 335 |
| Q 105LP | 455 |
| Q 210S | 795 |
| Q 425S | 1475 |

### WACOM TABLETS

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|---|---|
| Electrostatic 12 x 12 | 859 |
| Electrostatic 12 x 18 | 1249 |
| Standard 12 x 12 | 779 |
| Standard 12 x 18 | 1169 |
| Standard 6 x 9 | 549 |

*Choice of stylus or 4-button cursor. CALL FOR OTHER SIZES AND TYPES.*

### ZOOM MODEMS

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| Zoom 2400 | 75 |
| Zoom 2400 w/send/receive | 119 |
| Zoom V.42 bis | 139 |
| Zoom 9600 V.32/V.42 bis | 419 |

### REALTECH CACHE CARDS

**"...cache cards are simple, efficient, cost-effective enhancements for an already speedy Mac."**

***— MacUser, June 1991***

| | |
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| IIci Cache Card | 159 |
| IIsi Cache Card | 169 |
| IIsi Adapter | 59 |
| Classic Memory Board | 39 |

## 7 REASONS TO ORDER FROM US *(besides saving money!)*

1. **30-DAY MONEY-BACK GUARANTEE** on all hardware (except for special-order items). *If you're not satisfied with what you buy from us, just call. We'll refund your purchase price (minus consumables, for printers).*
2. **Toll-free tech support** when you need it.
3. **Pay when shipped...** We charge your credit card when your order is shipped — not when you place the order.
4. **Overnight delivery** when you need it.
5. **Business leasing available.**
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7. **We use Macs every day!** We truly understand your challenges.

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***"We demand that the products we sell are backed by absolute top quality, service and delivery. When our suppliers don't provide that, we search for sources that will meet your (and our) highest expectations. We've combined forces with Applied Engineering and Fusion Data Systems to offer the best products on the market."***

*Réal Provencher*

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Applied Engineering is Apple's oldest 3rd-party developer. For 12 years they've sold and installed more products for Apple computers than any other company except Apple. Their technical services department has over 70 years of combined experience working on Apple products.

***AFTER SELLING 1,000,000+ UNITS... THEY'RE SIMPLY THE BEST IN THE BUSINESS!***

**TransWarp NuBus 68040-25MHz.1929**

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| TransWarp SE 68030-25MHz (with 25MHz68882) | 739 |
| TransWarp SE 68030-40MHz (with 40MHz68882) | 1369 |
| TransWarp LC-33MHz | 749 |
| TransWarp LC-40MHz | 969 |
| HD Superdrive 1.44 | 215 |
| QuadraLink | 189 |
| FastMathLC | 155 |
| LC Heavy-Duty Power Supply | 99 |
| Quick Silver | 219 |

### FUSION DATA SYSTEMS

**TokaMac 68040 Accelerator Boards**

***Highest performance upgrade available for the IIci, IIsi, SE/30 or LC. TokaMac runs applications up to 300% faster than a IIfx!***

Provides significant productivity improvement to users whose primary applications include CAD, multimedia, graphics, modeling, simulation and analysis, animations, spreadsheets, and heavy (number-crunching) routines. Processes at 20 MIPS and 3.5 MFLOPS. System 7.0 compatible; no re-booting required.

| | |
|---|---|
| TokaMac CI | 2149 |
| TokaMac SX (SE/30 and SI) | 2019 |
| TokaMac LC | 1879 |

## THE NETWORKING CORNER

### *We know networking...try us!*

We've run our entire business on Macs, and have dealt with networking issues for more than five years. We know from experience how they work. If you already have a sticky network issue, give us a call. We're happy to help.

### ASANTÉ

*Asanté continues to lead the pack with quality Ethernet products at affordable prices...if you don't know whether you need 16 or 64K call us; we'll tell you!*

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| 16K Cards (all machines) | 199 |
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| GatorBox | 2015 |
| GatorPrint | 399 |

### CABLING

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| Hypernet DB-9 Connectors | 27 |

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| Star Connector EN | 131 |
| Star Controller | 865 |
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| DaynaPORT-T | 199 |
| DaynaPORT-T w/FP | 299 |
| EtherPrint | 335 |
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| Ethergate | 1389 |
| Fastpath 4 | 2079 |
| Netbridge | 445 |
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SUPERMAC

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| VideoSpigot | LC, IIsi, & NuBus | Call! |
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WE WILL NOT BE UNDERSOLD!

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Apple's Choice for 16" Displays

T-16 CALL!

Rated #1 three years in a row by MacUser! Call for prices on the T16, E16, TX, and T19 monitors, as well as the entire line of Futura cards.

### SIMMs

**$115** 4 Meg 80ns *(with trade in)*

**$37** 1 Meg 80ns

**$29** 1 Meg 120ns *Limited Quantities*

**CALL!** 16 Meg 80ns

### TEXAS INSTRUMENTS MICROLASER POSTSCRIPT PRINTERS

We Stock All Accessories & Supplies for Our Printers

**TI microLaser PLUS**

- 9ppm & 16ppm, with 17 or 35 Fonts
- 1.5 meg RAM Standard
- Upgradable to 4.5 meg RAM
- Mac & PC Compatible with 3 Interface Ports
- Upgradable to Turbo – *Call For Pricing!*

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| microLaser *Plus* PS17 | $1265 |
| microLaser *Plus* PS35 | $1565 |
| microLaser XL PS17 | $2425 |
| microLaser XL PS35 | $2725 |

**TI microLaser TURBO**

- 9ppm & 16ppm, Weitek RISC & 68000 Processors
- 2.5 meg RAM Standard, Upgradable to 10.5 meg
- PostScript Level 2, with 35 Fonts
- Mac & PC Compatible with 3 Interface Ports
- Automatic Port and Emulation Switching
- *6 Times Faster Than Other Postscript Printers*

microLaser *Turbo & Turbo XL* **Call!**

**GCC TECHNOLOGIES**

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| PLPII, PLPIIS | $50 Rebate • 4/8 ppm | Call! |
| BLPII, BLPIIS | $100 Rebate! • 4/8 ppm | Call! |
| BLP Elite | $100 Rebate! • 4/8 ppm | Call! |

**QMS**

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| PS410 | 4 ppm • 16 MHz | $1599 |
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**NEC Silentwriter2**

| | | |
|---|---|---|
| Model 90 | 6 ppm • 16 MHz | $1499 |
| Model 990 | 8 ppm • 32 MHz • SCSI Port | $2895 |

*NEC printers have an on-site warranty!*

### HARD DRIVES

**Five-Year Warranty!**

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| 385 Meg | 4.4 ms | $999 | $1099 |
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Drives are SCSI-2, System 7 & A/UX compatible.

**Thirty-Day Money Back Guarantee!**

MacCenter™ carries fine drives from GCC, Hewlett-Packard, Micropolis, Quantum, and Seagate. **Call!**

**HARD DRIVE SPECIALS!**

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|---|---|---|
| 105 Meg 23ms, One-Year Warranty | $299 | $399 |
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**Limited Quantities!**

Drives include brackets or metal cases, universal power supplies, cables, formatting software and 15 MB of shareware.

### REMOVABLE CARTRIDGES

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**$68** Per 45 Meg Cartridge

**$115** Per 88 Meg Cartridge

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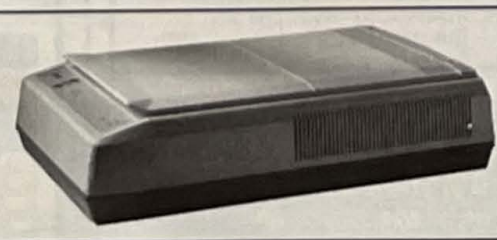
**UC 630** $1395

MacUser ★★★★

*24-bit Color & True 600 dpi, with PhotoShop 2.0 & WordScan*



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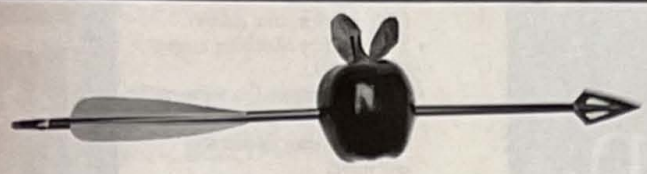

**STRAIGHT FROM THE MANUFACTURER.** Looking for top quality at reasonable prices? MacTel gives you more than you expect to get, for less than you expect to pay. Buying direct from the manufacturer assures you of top quality, savings and service!

## VisionPro Color Monitor Systems

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  24-bit SP 20" Trinitron
  *Editors' Choice, MacWorld 1/92* ..... $3349
- VisionPro Sony System (Multiscan)
  8-bit SPS 20" Sony Trinitron (GDM 1936) ..... $3297
  24-bit SPS 20" Sony Trinitron (GDM 1936) ..... $3797

*All VisionPro systems come with tilt/swivel monitors, in 110v or 220v.*

## Monitors

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- Seiko 1445 14" Trinitron ..... $629
- Sony 16" Trinitron ..... $1297
- Ikegami 20" CT20 Trinitron ..... $1897

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Trademark gold traces and leads distinguish our SIMMs from all others in appearance AND performance. Immune to oxidation & corrosion, gold is the most efficient & effective conductor in existence. Each surface mounted SIMM tested, coded, backed w/lifetime warranty!

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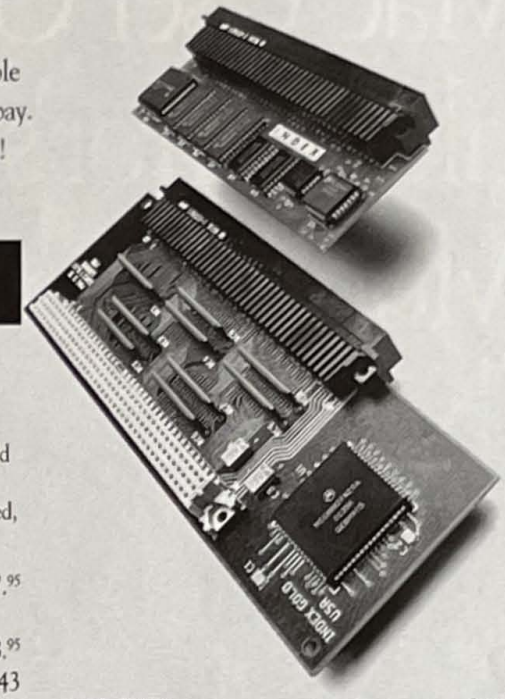
- 3 Mb Classic Index Gold™ ..... $109
- 4 Mb 70/80 ns Index Gold™ ..... $139



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- 1 Mb TI MicroLaser PS 17/35 & XL Gold™ ..... $69
- Mac LC V-RAM Index Gold™ upgrade ..... $69
- Quadra V-RAM Index Gold™ upgrade ..... $99
- Classic II Index Gold™ MathMate NEW! ..... $99
  *On-board 68882/16 MHz math co-processor for Classic II. FREE! Benchmark software included.*
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  *Accelerate math-intensive operations on your LC operations by up to 39% with a 68882/16 MHz math co-processor and get a 15% overall CPU improvement. FREE! Benchmark software included.*
- Mac IIsi 030 Index Gold™ Direct Slot Interface ..... $99
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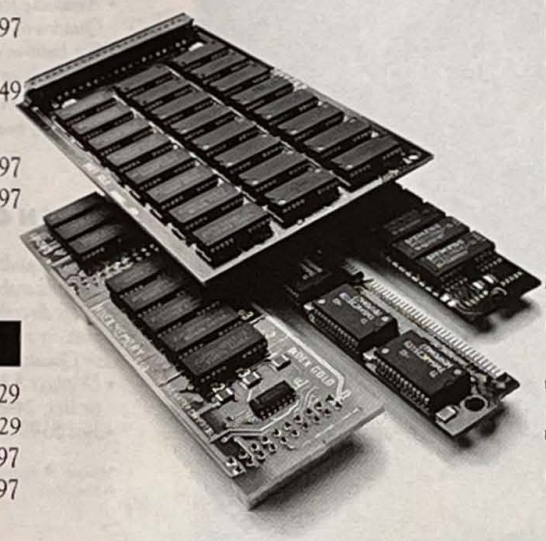

## Monitor System Special

Special price on our 24-bit VisionPro Ikegami System!
Includes: 24 bit color card
20" Ikegami monitor

MACWORLD 1/92, ON THE VISIONPRO MONTIOR SYSTEM:
"...a surprise bargain...the [VisionPro] show beautiful, rich colors, and sharp text."
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## CPU's

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## Index Extended Keyboards

Index ADB keyboards have a 105-key layout, 15 function keys, cursor control keys & number pad. Foreign language keyboards are bundled with their respective system software.

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All Index drives come preformatted, support partitioning, password protection, and are A/UX and System 7 compatible. We supply all necessary cables & brackets, and FREE 14Mb public domain software. Plug them in and go!

**Index Hard Drives**

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|---|---|---|
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- Index 45R ..... $499
  With 1 cartridge
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  All removable drives bundled with Backmatic© and AutoSave©

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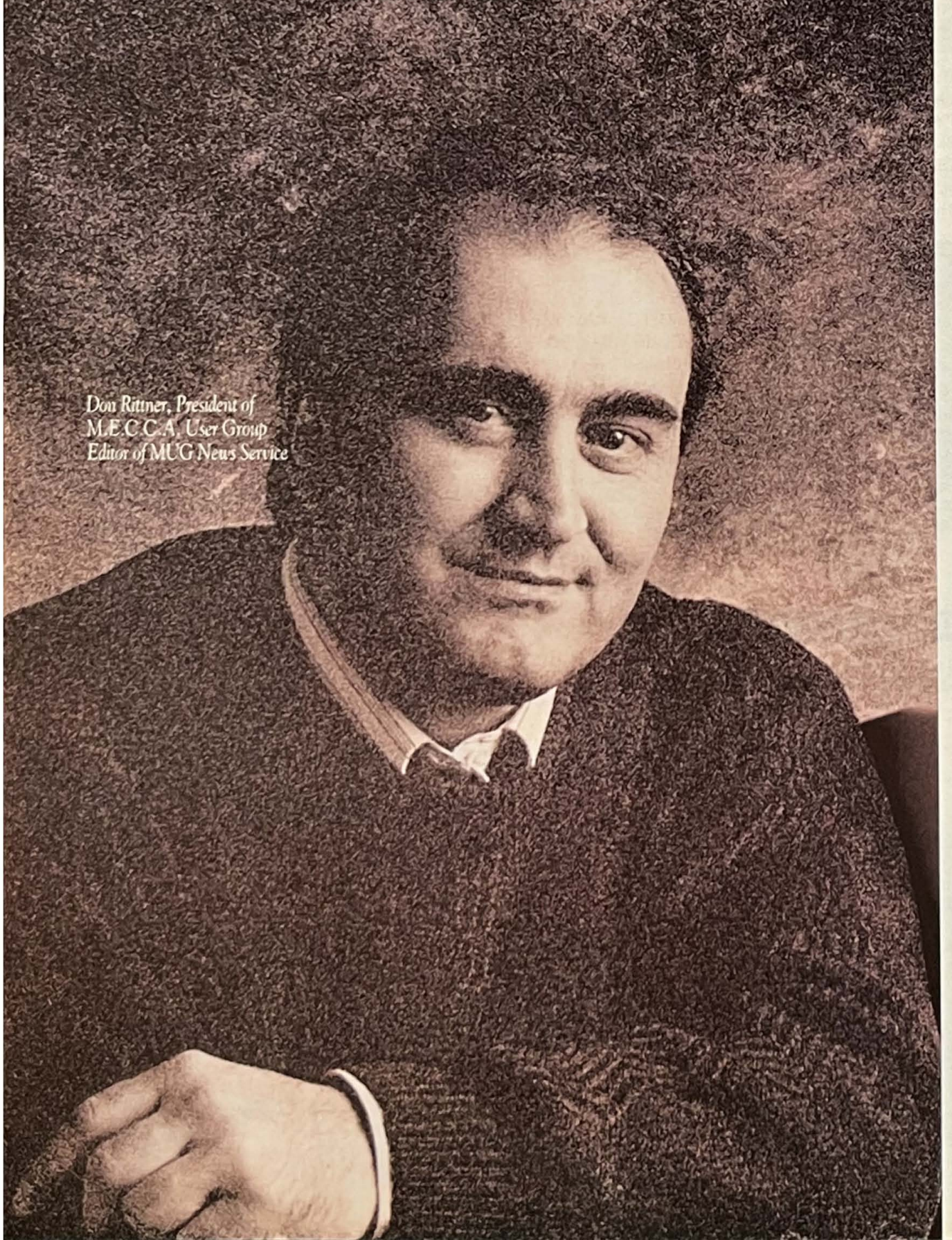
# The Leader Of A Leading Mac User Group Thinks Mirror's Color Monitors Lead The Pack.



Don Rittner, President of
M.E.C.C.A. User Group
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### 20-INCH PROVIEW TRINITRON

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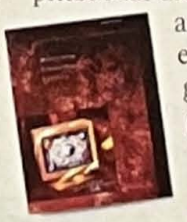
*depends on the amount of VRAM in your Mac.



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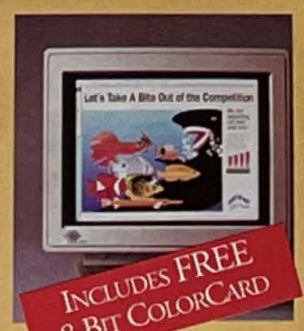


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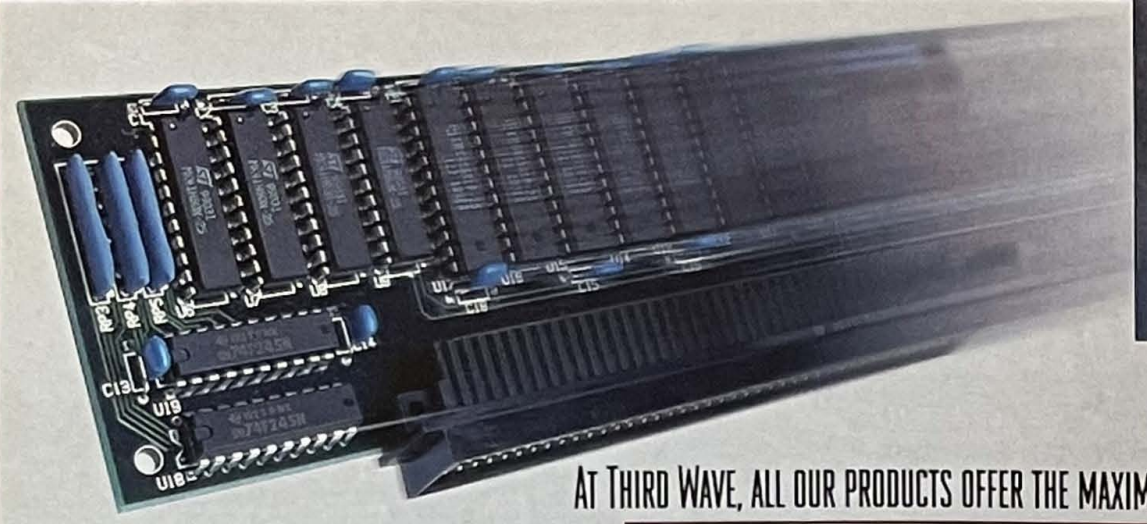

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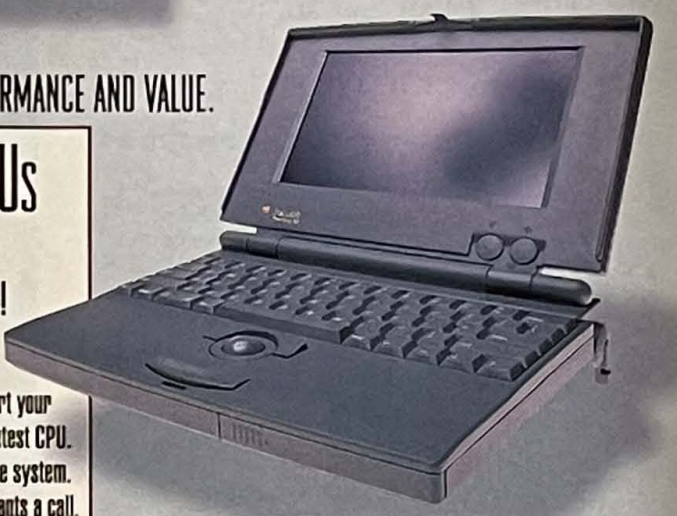

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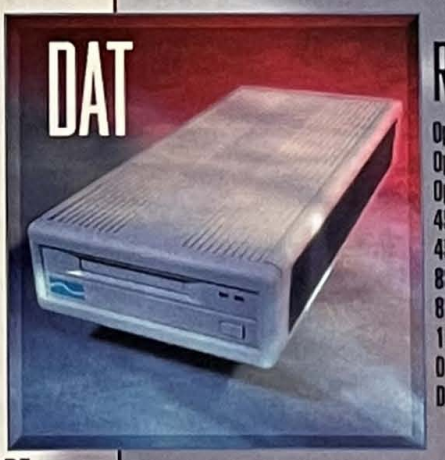


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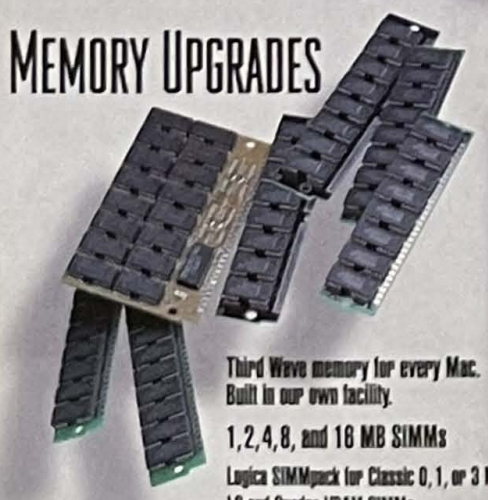

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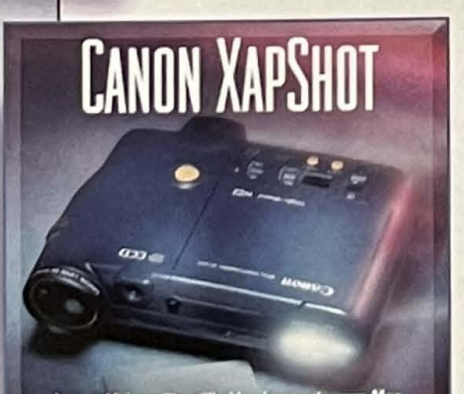

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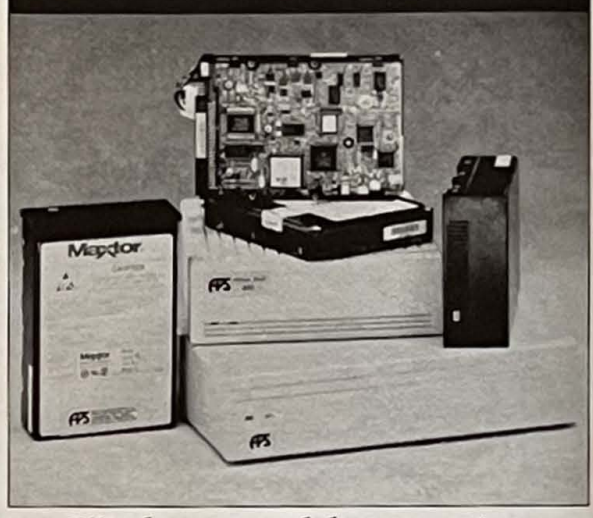


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| *Multimedia Boards* | |
| RasterOps 24XLTV Board | $2559.00 |
| RasterOps 24STV Board | $1169.00 |
| CorrectColor Calibrator | $1899.00 |
| Expresso Slide Scanner | $669.00 |

### Radius

| | |
|---|---|
| *Pivot Displays* | |
| Color Pivot Display with soft pivot | $1329.00 |
| Color Pivot 8-bit System | $1840.00 |
| *for SE/30, LC, II, IIsi* | |
| Pivot Display with soft pivot | $755.00 |
| Pivot 8-bit System | $1012.00 |
| *for SE/30, LC, and NuBus* | |
| *Full Page Displays* | |
| Full Page Display for Classic | $824.00 |
| Full Page Display for LC | $886.00 |
| Full Page Display for IIsi and IIci | $629.00 |
| *gets 16 shades of gray w/ built-in video* | |
| *Color Systems* | |
| Radius PowerView SCSI Interface | $493.00 |
| PrecisionColor 8 & 8si Interface Card | $511.00 |
| PrecisionColor 8x & 8xsi Interface Card | $734.00 |
| PrecisionColor 24x & 24xsi Int. Card | $1624.00 |
| Radius Color Display 20" (Multiscan) | $2749.00 |
| Radius Color Display 19" (Trinitron) | $2749.00 |

## SIMMS and More...

| | | | |
|---|---|---|---|
| PwrBk 2Mb | $279.00 | 1x8 SIMM | $37.00 |
| PwrBk 4Mb | $469.00 | 4x8 SIMM | $139.00 |
| PwrBk 6Mb | $659.00 | Others | Call |

## Best Sellers and More...

| | |
|---|---|
| Apple 7.0 Personal Upgrade Kit | $99.00 |
| Abaton InterFax 24/96 | $279.00 |
| Adobe Type Manager 2.0 | $59.00 |
| Adobe Illustrator 3.0 | $379.00 |
| Adobe Photoshop | $599.00 |
| Aldus PageMaker 4.2 | $549.00 |
| Aldus Freehand 3.1 | $399.00 |
| Claris MacDraw Pro | $285.00 |
| Claris MacWrite II | $139.00 |
| Claris FileMaker Pro | $215.00 |
| DoveFax Plus Modem | $349.00 |
| Kensington Turbo Mouse ADB | $109.00 |
| Microsoft Word 5.0 | $319.00 |
| Microsoft Excel 3.0 | $309.00 |
| Prometheus ProModem 9600MPlus | $599.00 |
| Quark Xpress 3.1 | $569.00 |

## Printers and More...

| | |
|---|---|
| *QuickDraw* | |
| Apple ImageWriter II | $429.00 |
| HP DeskWriter w/ AppleTalk | $429.00 |
| HP DeskWriter C w/ AppleTalk | $749.00 |
| GCC PLP II & IIS | Call |
| *TrueType* | |
| Apple StyleWriter | $429.00 |
| Apple Personal LaserWriter LS | $929.00 |
| Microtek TrueLaser | $1395.00 |
| *PostScript* | |
| NEW! Apple LaserWriter IIf | $2829.00 |
| NEW! Apple LaserWriter IIg | $3599.00 |
| *Has Ethernet connection built-in* | |
| Apple Personal LaserWriter NT | $1799.00 |
| NEW! GCC BLP Elite | Call |
| TI Microlaser 17 XL Turbo w/AppleTalk | $2079.00 |
| TI Microlaser 35 XL-Turbo w/AppleTalk | $2899.00 |
| TI MicroLaser PS17 Plus w/AppleTalk | $1299.00 |
| TI MicroLaser PS35 Plus w/AppleTalk | $1599.00 |
| QMS PS-410 | $1699.00 |
| QMS PS-815MR | $4199.00 |

## Networks and More...

| | |
|---|---|
| Phone network adapters | $19.00 |
| Asanté FreindlyNet Media Adapters | $89.00 |
| Asanté FriendlyNet Cards | $249.00 |
| Asanté MacCon+ 16K Cards | $199.00 |
| Asanté MacCon+ 64K Cards | $259.00 |
| Asanté 10T Hub | $679.00 |

## Accelerators and More...

| | |
|---|---|
| DayStar FastCache IIci | $269.00 |
| DayStar FastCache IIsi | $289.00 |
| DayStar 33 MHz PowerCache LC | $669.00 |
| *Get virtual memory on your LC with System 7* | |
| DayStar 40 MHz PowerCache | $869.00 |
| DayStar 50 MHz PowerCache | $1335.00 |
| *Available for the LC, SE/30, II, IIx, IIcx, II si & IIci* | |
| Radius Rocket 040 Accelerator | $1629.00 |

## Scanners and More...

| | |
|---|---|
| NEW Apple One Scanner | $1099.00 |
| Caere Typist Hand Held OCR | $479.00 |
| Microtek 600 GS | $799.00 |
| Microtek 600ZS Color Scanner | $1399.00 |
| Microtek 1850S | $1999.00 |
| UMAX UC - 630 Scanner | $1399.00 |

## Drives and More...

ETC Peripherals

| | |
|---|---|
| *Internal* | |
| ETC 40 Mb | $199.00 |
| ETC 52 Mb Quantum LPS, 12 msec | $239.00 |
| ETC 80 Mb Maxtor Drive | $289.00 |
| ETC 105 Mb Quantum LPS, 12 msec | $349.00 |
| ETC 120 Mb Maxtor Cheyenne, 15 msec | $359.00 |
| ETC 120 MB Quantum LPS, 11ms | $439.00 |
| ETC 170 Mb Quantum PRO, 9 msec | $559.00 |
| ETC 213 Mb Maxtor LXT, 15 msec | $589.00 |
| ETC 240 Mb Quantum LPS, 11ms | $739.00 |
| ETC 340 Mb Maxtor LXT, 13 msec | $939.00 |
| ETC 425 Mb Quantum PRO, 9 msec | $1269.00 |
| ETC 535 Mb Maxtor LXT, 13 msec | $1449.00 |
| *The drives below can be used in the Mac II, IIx, and IIfx.* | |
| ETC 307 Mb WREN-4, 14 msec | $1129.00 |
| ETC 337 Mb WREN-Runner-1, 10.7 ms | $1279.00 |
| ETC 613 Mb WREN-5, 16.5 msec | $1349.00 |
| ETC 676 Mb WREN-6, 15.5 msec | $1399.00 |
| ETC 676 Mb WREN-Runner-2, 12 ms | $1649.00 |
| ETC 760 Mb Maxtor, 13ms | $1389.00 |
| ETC 1.2 Gb Seagate, 15ms | $1899.00 |
| ETC 1.2 Gb Maxtor Panther, 13 msec | $1879.00 |
| ETC 1.7 Gb Seagate, 15ms | $2399.00 |
| ETC 1.7 Gb Maxtor, 13ms | $2489.00 |
| *External* | |
| ETC 40 Mb | $259.00 |
| ETC 52 Mb Quantum LPS, 12 msec | $299.00 |
| ETC 80 Mb Maxtor Drive | $359.00 |
| ETC 105 Mb Quantum LPS, 12 msec | $429.00 |
| ETC 120 Mb Maxtor Cheyenne, 15 msec | $429.00 |
| ETC 120 Mb Quantum LPS, 11ms | $519.00 |
| ETC 170 Mb Quantum PRO, 9 msec | $639.00 |
| ETC 213 Mb Maxtor LXT, 15 msec | $649.00 |
| ETC 240 Mb Quantum LPS, 11 ms | $809.00 |
| ETC 340 Mb Maxtor LXT, 13 msec | $999.00 |
| ETC 425Mb Quantum PRO, 9 msec | $1339.00 |
| ETC 535 Mb Maxtor LXT, 13 msec | $1509.00 |
| ETC 307 Mb WREN-4, 14 msec | $1279.00 |
| ETC 337 Mb WREN-Runner-1, 10.7 ms | $1429.00 |
| ETC 613 Mb WREN-5, 16.5 msec | $1499.00 |
| ETC 676 Mb WREN-6, 15.5 msec | $1549.00 |
| ETC 676 Mb WREN-Runner-2, 12 ms | $1799.00 |
| ETC 760 Mb Maxtor, 13ms | $1489.00 |
| ETC 1.2 Gb Maxtor Panther, 13 msec | $1979.00 |
| ETC 1.2 Gb Seagate, 15ms | $2049.00 |
| ETC 1.7 Gb Seagate, 15ms | $2549.00 |
| ETC 1.7 Maxtor, 13ms | $2589.00 |

## Removables and More...

**ETC 45R SyQuest Removable** ($439)
*Low price includes one cartridge.*

**ETC Dual 45R/88R SyQuest** ($1049)
*Two removable drives in one box. Includes one of each cartridge! Also available is the ETC 44DR Dual and 88DR Dual Syquest Drives for $799.00 and $1299.00*

45 Mb Syquest Cartridge $65; 88Mb- $119

**ETC 88R SyQuest Removable** ($599)
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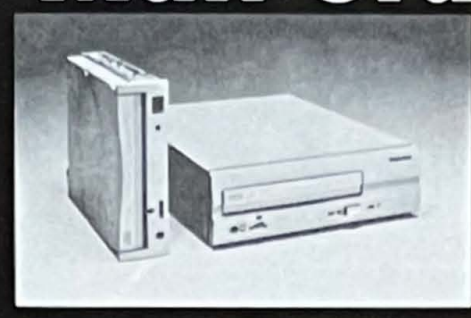

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**Full Page Pivot Display**
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**Full Page Display for Classic** $875.00
this system above includes an interface card.
**Full Page Display for LC** $885.00
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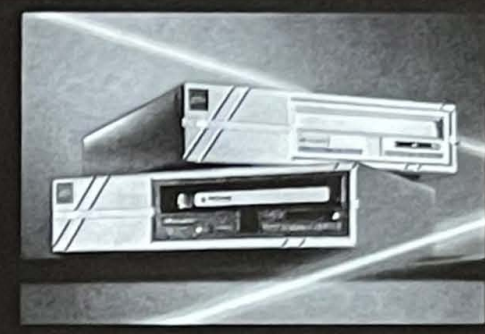
## SONY ETC 650 Mb Magneto-Optical Drive



*Only ETC Peripherals could bring you a Magneto-Optical drive using the very popular SONY drive assembly at this price. This price includes the ETC 650 Mb M-O Drive, SCSI interface cable, external terminator block, power cord, manual, and ETC Tools 2.1.*

**$2995.00**
ETC 650 MB M-O Drive
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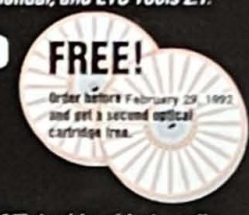


**Features:**

- Large Capacity—5.25" double-sided media for up to 650 Mbytes of formatted capacity.
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- Reliability—stable media enables long-term archives.
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- Compatibility—follows ISO/ANSI standards to assure interchangeability regardless of manufacturers.
- SCSI Interface included—nothing special to order. One price, one box. Just plug it in.
- Faster Access—70 msec average seek time is an industry leader made possible by a compact and light mobile optical block

## SyQuest TECHNOLOGY

**$599.00**

## ETC 88R Removable Drive

*The phones haven't stopped ringing since the review came out on this drive. The ETC 88R features a SyQuest 88 MB magnetic-cartridge drive in a zero-footprint half-height drive enclosure. Included with the drive is one SyQuest 88 MB removable cartridge, SCSI interface cable, external terminator block, power cord, manual, and ETC Tools 2.1.*

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COMstation TWO $379.00
A high-performance fax modem with the same software as COMstation ONE. But it adds V.42, V.42 bis, V.23, and MNP5 to boost throughput of its 2400 baud data modem up to 9600 baud.

COMstation THREE $524.00
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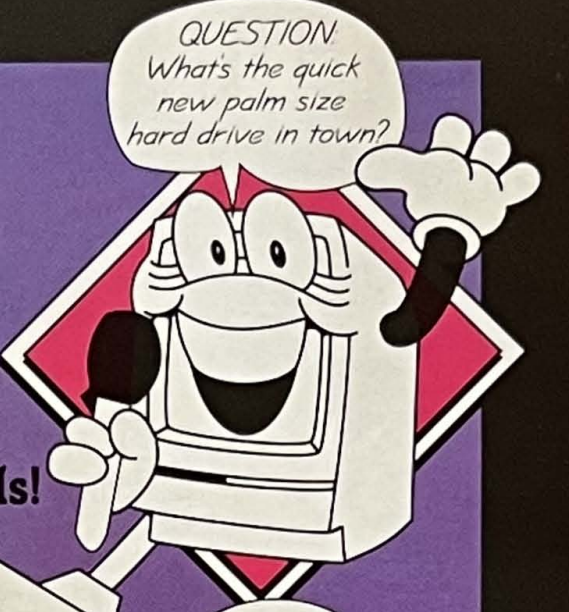
# Introducing QuicKit

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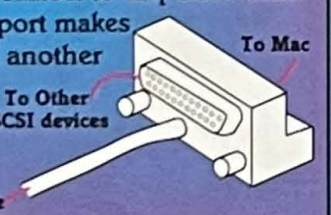


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## Complete QuicKit 40 Package

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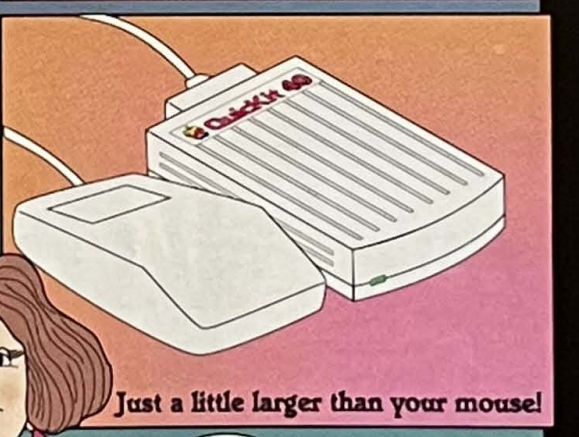


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- Accomodates 2 QuicKit drives
- Includes switching power supply
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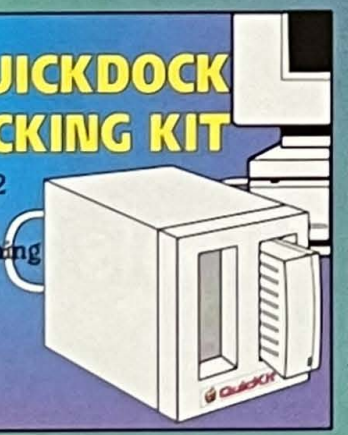

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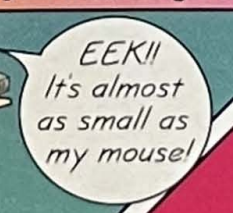


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| TI MICROLASER | • | | | | | | |
| HP LASERJET | • | • | | • | | | |
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| POWERBOOK 140 | | • | | • | • | | |
| POWERBOOK 170 | | • | | • | • | | |

| CARDS | |
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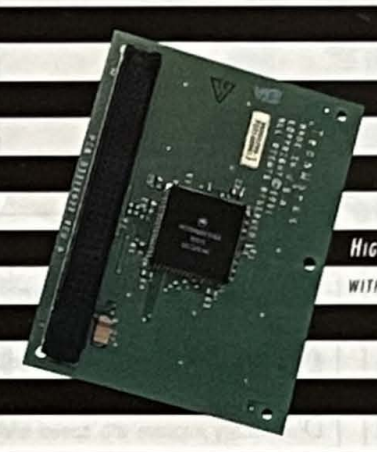

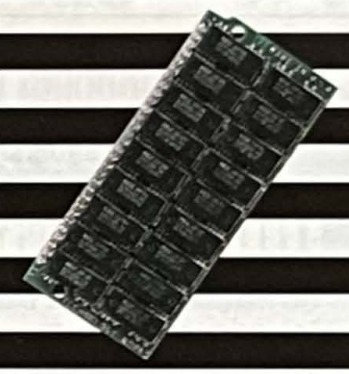

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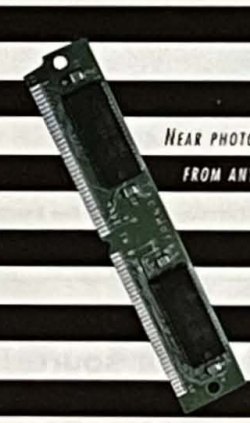

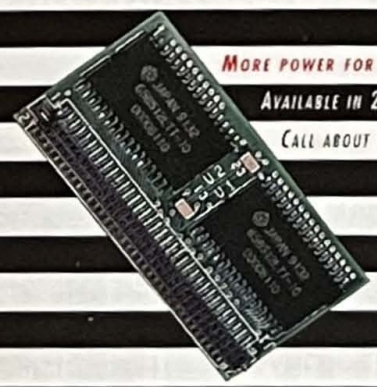

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| 2M x 8-80ns (LC, IIsi, IIci) | $73 | Mac LC 68882-16MHZ FPU | $79 |
| 16Mx8-80ns SIMMs (ci,Quadra,fx) | Call | Mac Classic II 68882-16MHZ FPU | $79 |
| Mac Portable2M/4M | $425/850 | Powerbook Portable Fax Modem | $179 |
| Mac Powerbook 2M/4M/6M | Call | Mac IIci 64K Cache | $150 |
| Mac Classic 1M/3M Board | $53/119 | Mac IIsi 64K Cache | $169 |
| Mac LC 512K VRAM | $66 | Mac 512 KE Upgrades as low as | $249 |
| VRAM for Raster Ops/Radius | Call | Mac Plus Accelerators as low as | $249 |
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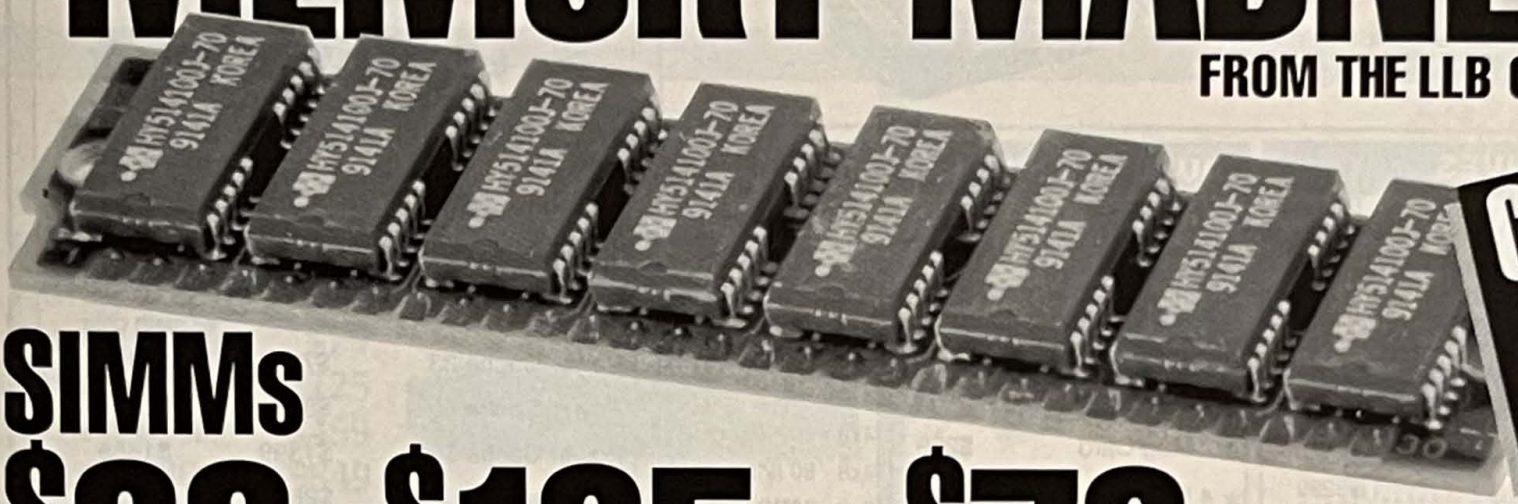

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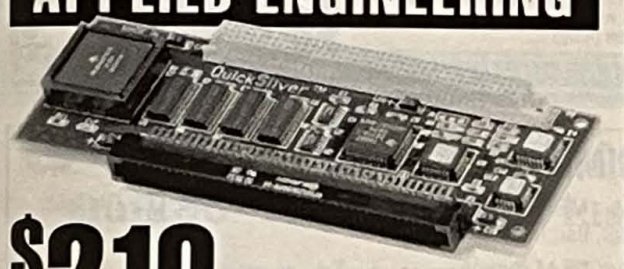

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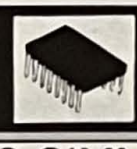

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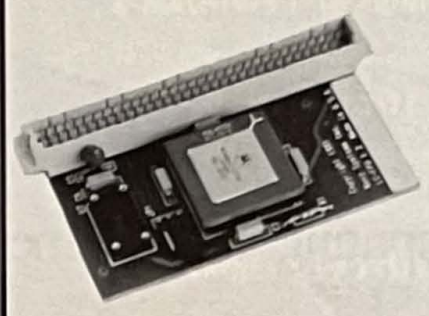

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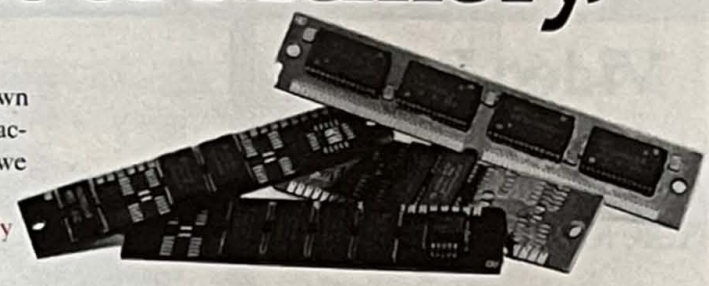

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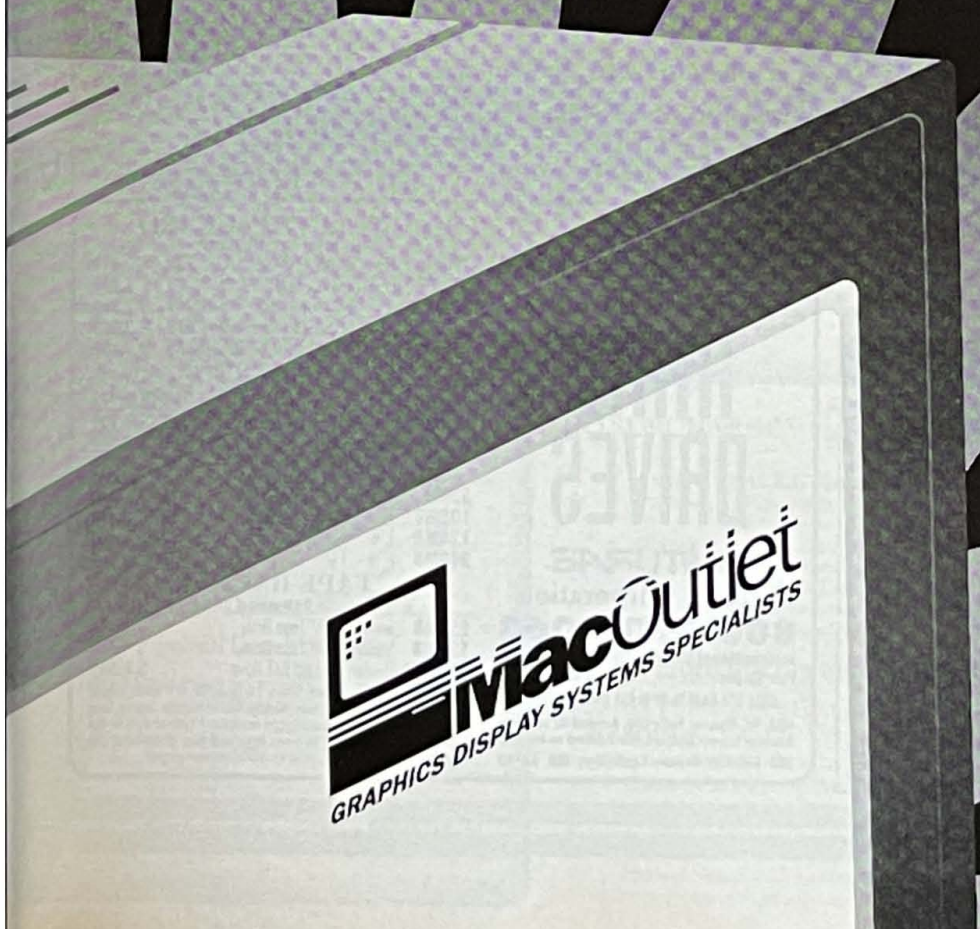


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ABATON 110/220 v.

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See Page 41

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**FUJITSU**

| | | | | |
|---|---|---|---|---|
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| 520MB | 3.5" | 12ms (9ms eff) | $ 1,229 | $ 1,299 |
| 1050MB | FH | 14ms (11ms eff) | $ 1,949 | $ 2,069 |

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|---|---|---|---|---|
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| 105MB | 1"Ht | 17ms (9ms eff) | $ 329 | $ 399 |
| 124MB | 1"Ht | 14ms (8ms eff) | $ 419 | $ 489 |
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All drives come preformatted with System 7.0 compatible SCSI drivers. External drives have a Zero-Footprint cabinet. Shoebox cabinet available. Internal drives include all cables and brackets necessary for installation. FH internal drives for Mac II, IIx, IIfx, Quadra 900 only. 1"Ht internal drives for all Macs. HP and Fujitsu have a five year warranty, Quantum and Sankyo have a two year warranty.

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| 105mb | 9/26ms | 3.5" TH* | $339 | $409 |
| 120mb | 16 | 3.5" TH | CALL | CALL |
| 240mb | 16 | 3.5" TH | CALL | CALL |
| 425mb | 8ms | 3.5" HH | $1299 | $1399 |

*LPS-LP are Low Power drives for Mac Classic

**Quantum Drives have a TWO Year Warranty**

### Maxtor

| Model | Capacity | Access | Size | Internal | External |
|---|---|---|---|---|---|
| 7120 | 120mb | 15ms | TH | $369 | $439 |
| 213S | 207mb | 15ms | HH | $599 | $669 |
| 340S | 330mb | 14.5ms | HH | $959 | $1029 |
| 8760S | 645mb | 16.5ms | FH | $1399 | $1499 |
| P0-12S | 1.0gb | 13ms | FH | $1929 | $2029 |
| P1-17S | 1.4gb | 13ms | FH | $2499 | $2599 |

**Maxtor Drives have a TWO Year Warranty**

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| Model | Capacity | Access | Size | Internal | External |
|---|---|---|---|---|---|
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| 1480N | 420mb | 14ms | HH | $1299 | $1369 |
| 4385M | 337mb | 11ms | FH | $1269 | $1369 |
| 4766M | 676mb | 15ms | FH | $1449 | $1549 |
| 41200M | 1.0gb | 15ms | FH | $1999 | $2099 |
| 41650N | 1.4gb | 15ms | FH | CALL | CALL |

**Seagate Drives have a ONE Year Warranty**

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| 330mb | 9ms | 3.5" HH | $1295 | $1365 |
| 425mb | 9ms | 3.5" HH | $1367 | $1437 |
| 520mb | 9ms | 3.5" HH | $1477 | $1547 |
| 345mb | 16ms | FH | $1197 | $1297 |
| 645mb | 16ms | FH | $1277 | $1377 |
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TH = Third Height (Low Profile), HH = Half Height, FH = Full Height

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| w/ 68882 Math Coprocessor | $1629 |
| FastCache Mac IIsi | $295 |
| FastCache Mac IIci | $259 |

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Please Specify Model

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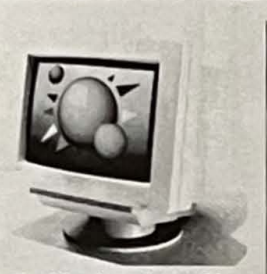

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2 Meg. - 2Mx8-80/Mac*** ..... 79
4 Meg. - 4Mx8-80/Mac*** ..... 129

4 Meg. 4M x 8 - 80 $129

16 Meg. - 16Mx8-80/Mac High Profile ..... 799
16 Meg. - 16Mx8-80/Mac Low Profile ..... 899
1 Meg. - 1Mx8-80/IIfx** ..... 43
4 Meg. - 4Mx8-80/IIfx*** ..... 139
16 Meg. - 16Mx8-80/IIfx High Profile ..... 849
Quadra - 256K Video SIMM*** ..... 59
Classic - 3 Meg. Expansion Card w/1 Meg. .. 59
Powerbook - 2 Meg. Expansion Card ..... 269
Powerbook - 4 Meg. Expansion Card ..... 499
Powerbook - 6 Meg. Expansion Card ..... 749

Powerbook 6 Meg. Card $749

* minimum = 8 ** minimum = 4 *** minimum = 2

## 24-Bit Color Scanner

$999 Epson Engine

Available with Color Studio LE, and Scan-Do software. 16 million colors/256 grayscale - 300 x 600

An affordable, fine quality, flatbed (A/A4), 24-bit color scanner for business and professional applications. Priced for less than 8-bit color scanners. Provides precise single-pass, 16 million colors (256 grayscale) at 300 dpi and output at 600 dpi. Auto recalibrate with every scan. Three separate rare earth lamps for true colors.

24-Bit Color Scanner (110 VAC) ..... 999
24-Bit Color Scanner (220 VAC) ..... 1,099
Software Bundle ..... 149

Color Studio LE, and Scan-Do Software.

## CD-ROM Players

Pioneer 6-Disc CD-ROM Mini-Changer $999

Pioneer DRM-600A

Holds up to 6 Removable CD-ROM Discs - More than 3 Gigabytes of Data - On-Line!

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6-Disc CD-ROM Changer - Pioneer ..... 999
6-Disc CD-ROM Magazine - Pioneer ..... 13
Educorp Public Domain CD (Mac) ..... 29
Software Bundle - 6 CD's (Mac & IBM) ... 269

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Toshiba CD-ROM Player

The Vista Toshiba CD-ROM Player is a High Quality CD player for Mac, IBM or SUN.

Featuring the **Toshiba XM3301B**. Vista CD-ROM provides state-of-the-art performance including a sealed contamination free environment and an automatic lens cleaning mechanism which dramatically improves reliability. **Performance is a fast 325 milliseconds average access.** Compatible with SUN, IBM and Mac. Can be used to play CD-Audio discs! Full audio control via software is provided by the **Music Box** software (included). Includes SCSI cable, Mac software, and sample CD-ROM.

CD-ROM - Vista - Toshiba Player ..... 579
CD-ROM Disc Caddy ..... 8

## Erasable Optical

$1,399 3-1/2" Optical 128 Meg.

IBM compatible, small and portable!

Each 3-1/2" erasable optical cartridge holds over 120 megabytes of data! The **Sierra MO** (shown) is an ideal primary or backup storage device for IBM or Macintosh personal computers. Featuring the RICOH 3010E drive, the **Sierra MO** is IBM and SONY compatible - and it is faster! Complete package - includes SCSI cable, Mac software, and external power supply. Specify 110 or 220 VAC.

Includes media, software & cables - additional media next page.

128 Meg. Ricoh ISO 3010E New! ..... 1,399
128 Meg. Optical Cartridge New! ..... 49

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Lowest cost per megabyte - 67 ms. average access.
600 Meg. Ricoh ISO 5031E New! ..... 2,999
High performance - 35 ms. average access.
1.0 Gig. Maxoptix Tahiti-II ..... 3,999
High capacity - 1 Gigabyte - 35 ms. average access.

$6,999 3.0 Gig. ISO Optical Jukebox

- 3.0 Gigabyte Capacity per 5 Cartridge Carrier
- Macintosh - IBM - SUN Compatible
- Low Cost - High Performance Data Library

The **Optical Jukebox** offers true data library features at a low price. It is fast, featuring the RICOH 5031E, the average access is 35 milliseconds. The **Optical Jukebox's** quick cartridge handling provides needed information from up to 5 data cartridges almost instantly. 110/220 VAC.

3.0 Gig. Jukebox - Ricoh ISO 5031E ....6,999

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Targus Powerbook (all models) ..... 59
Targus Classic ..... 69
Targus SE, SE/30 w/extended keyboard .... 79

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|---|---|---|
| Mobile 44 Cartridge | 68 | 65 |
| Mobile 88 Cartridge | 109 | 99 |

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| | 1 to 4 | 5 + |
|---|---|---|
| 44 Meg. SyQuest Cartridge | 68 | 65 |
| 88 Meg. SyQuest Cartridge | 109 | 99 |
| 60 Meg. Teac Compatible Tape | 19 | 14 |
| 160 Meg. Teac Compatible Tape | 24 | 19 |
| 150 Meg. DC-6150 Tape | 29 | 25 |
| 250 Meg. DC-6250 Tape | 33 | 29 |
| 1.2 Gig. DAT 4 mm | 19 | 14 |
| 2.0 Gig. DAT 4 mm | 29 | 25 |
| 2/5 Gig. ExaByte Compatible 8 mm | 18 | 13 |
| 128 Meg. 3-1/2" Optical Plastic | 49 | 47 |
| 600 Meg. 5-1/4" Optical Plastic 5-Pk | 119 | 99 |
| 600 Meg. 5-1/4" Optical Plastic Single | 139 | 119 |
| 600 Meg. 5-1/4" Optical Glass Single | 189 | 159 |
| 1.0 Gig. Optical - Glass, Maxoptix | 269 | 229 |
| 600 Meg. Optical - Plastic, Pioneer | 189 | 169 |
| 600 Meg. WORM, Pioneer | 119 | 99 |

## Portable & Transportable Drives

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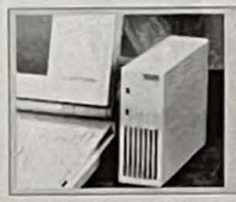

105 Meg. Sierra

Light-weight and rugged, the Sierra is the affordable and transportable hard disk! **$389**

| | |
|---|---|
| 60 Meg. Pocket - Maxtor, 17 ms. | 309 |
| 80 Meg. Pocket - Maxtor, 17 ms. | 329 |
| 105 Meg. Pocket - Quantum, 28 ms. | 379 |
| 120 Meg. Pocket - Maxtor, 17 ms. | 489 |
| 40 Meg. Sierra - Maxtor, 17 ms. | 249 |
| 52 Meg. Sierra - Quantum, 28 ms. | 269 |
| 105 Meg. Sierra - Quantum, 28 ms. | 389 |
| 240 Meg. Sierra - Quantum, 11 ms. | 739 |

## Hard Disk Drives - Internal & External

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Vista - Seagate ST1126N 15 ms.
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| 20 Meg. - ST325N, 28 ms. | 149 | 209 |
| 30 Meg. - ST138N, 28 ms. | 179 | 239 |
| 46 Meg. - ST157N, 28 ms. | 219 | 279 |
| 60 Meg. - ST177N, 20 ms | 229 | 289 |
| 80 Meg. - ST1096N, 20 ms | 249 | 309 |
| 105 Meg. - ST1126N, 15 ms. | 289 | 349 |
| 170 Meg. - ST1201N, 15 ms | 539 | 599 |
| 330 Meg. - ST1401N, 12 ms. | 1,209 | 1,269 |
| 425 Meg. - ST1480N, 14 ms. | 1,309 | 1,369 |
| 525 Meg. - ST1581N, 14 ms. | 1,509 | 1,569 |
| 1 Gig. - ST11200N, 12 ms. | 2,609 | 2,669 |
| *5-1/4" Full Height - WREN* | | |
| 300 Meg. - ST4350N, 16.5 ms. | 1,099 | 1,159 |
| 600 Meg. - ST4702N, 16.5 ms. | 1,439 | 1,499 |
| 660 Meg. - ST4766N, 15.5 ms. | 1,569 | 1,629 |
| 1.0 Gig. - ST41200N, 15 ms. | 1,939 | 1,999 |
| 1.4 Gig. - ST41650N, 15 ms. | 2,699 | 2,759 |
| 1.9 Gig. - ST42100N, 12.9 ms. | 3,369 | 3,429 |
| *5-1/4" Full Height - WREN Runner* | | |
| 330 Meg. - RUNNER, 10.7 ms. | 1,299 | 1,359 |
| 660 Meg. - RUNNER, 11.9 ms. | 1,749 | 1,799 |

| Quantum 3-1/2" LPS | Internal | Vista External |
|---|---|---|
| 52 Meg. - LPS 52, 11 ms. | 229 | 289 |
| 105 Meg. - LPS 105, 11 ms. | 349 | 409 |
| 240 Meg. - LPS 240, 11 ms. | 699 | 759 |
| *3-1/2" LPS - "Low Power" Series* | | |
| 52 Meg. - LPS 52LP, 28 ms. | 219 | 279 |
| 105 Meg. - LPS 105LP, 28 ms. | 339 | 399 |
| *3-1/2" Pro Series* | | |
| 425 Meg. - Pro 425, 12 ms. | 1,439 | 1,499 |
| **Fujitsu** *3-1/2" Half Height* | | |
| 520 Meg. - 2624SA, 12 ms. | 1,499 | 1,559 |
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| 650 Meg. - 2263SA, 15 ms. | 1,439 | 1,499 |
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| **Maxtor** *3-1/2" Low Profile/Low Power* | | |
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| 80 Meg. - 7080S, 17 ms. | 289 | 349 |
| 120 Meg. - 7120S, 17 ms. | 439 | 499 |
| *5-1/4" Full Height - Panther* | | |
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**CD ROM**
*Begins on page 96.*

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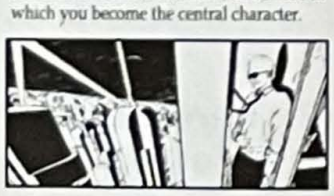

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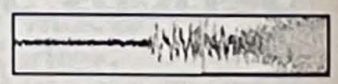

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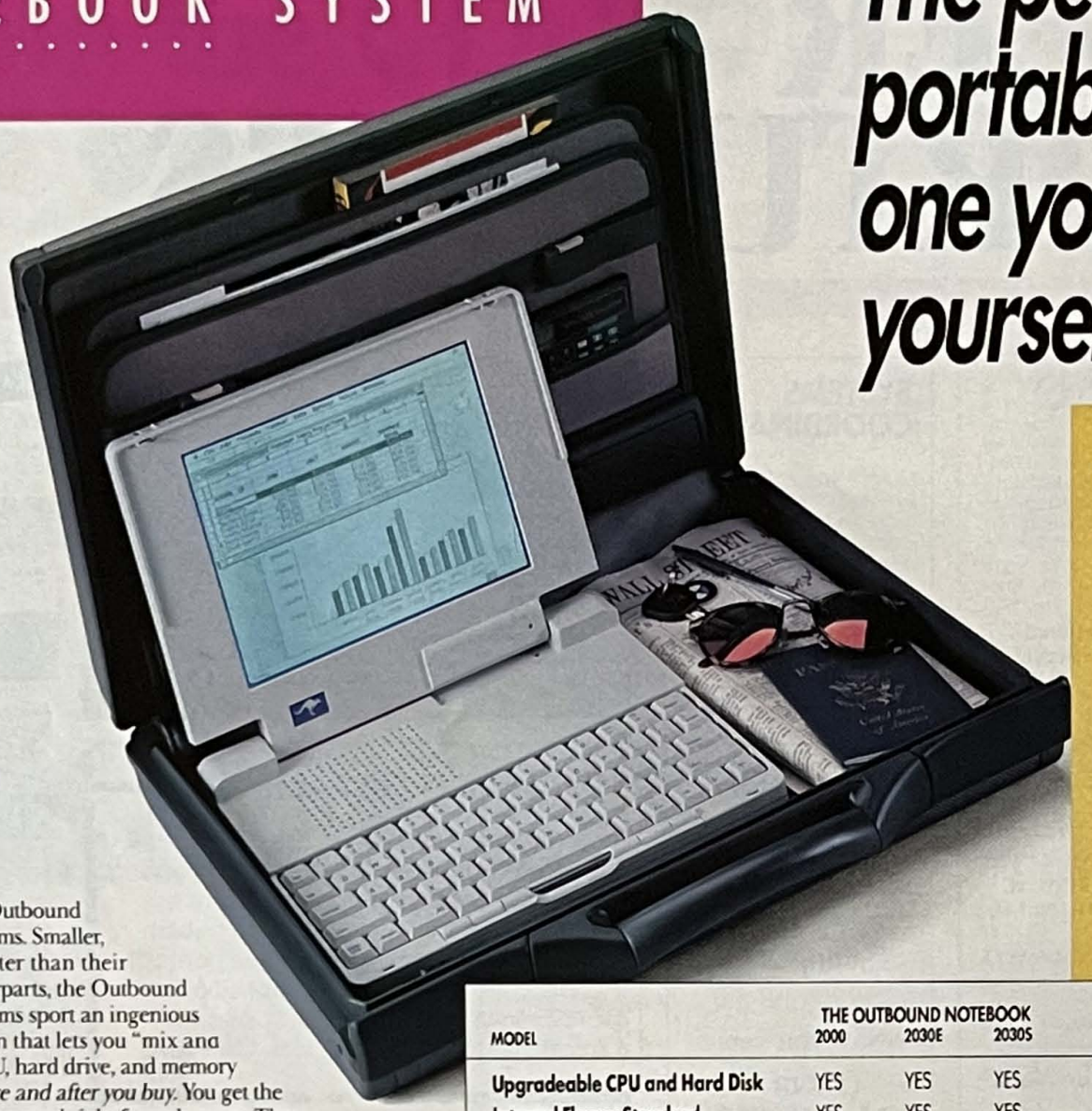

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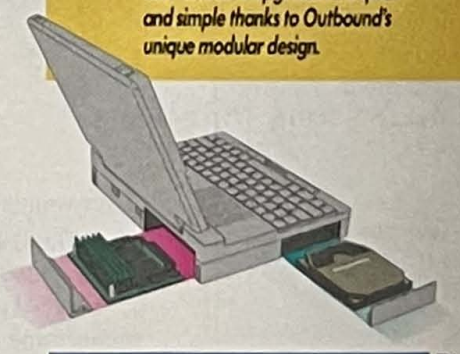

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# BUSINESS WATCH

- Industry news
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## Falcon fights to keep competitive

*Tracking program helps KeepInTouch*

**By Mitch Ratcliffe**

Landover, Md. — Even with a virtual monopoly on non-competitive Mac sales to the federal government, officials at Falcon Microsystems Inc. still face a major challenge in fulfilling users' expectations.

Despite its enviable status, Falcon competes with other companies, including Apple's Reston, Va.-based Federal Systems Group, for larger, multisystem contracts.

And although the federal government is expected to spend $21.7 billion on computer-related products in 1992, government users pay a relative pittance for Mac hardware. For example, at a time when a Mac IIfx with an 80-Mbyte hard drive and 4 Mbytes of RAM was listed at $8,069, Falcon charged only $5,170. (Apple recently lowered the list price to $5,800.)

**Falcon President M. Dendy Young said he expects customized software and vigorous user education will increase the reseller's federal market sales, both on Capitol Hill and outside the Beltway.**

To meet the needs of Capitol Hill users, Falcon recently introduced KeepInTouch, an Omnis 5-based constituent-tracking program that lets legislators compile voter information and provide personalized responses to voters' letters and phone calls.

But Falcon, in order to sell the $995 application, must translate legislators' existing files, which now reside on antiquated nine-track tapes, to a Macintosh-compatible format.

KeepInTouch was approved by the General Services Administration in October and is now in use at several Congressional offices.

"[KeepInTouch] helps us sell the Mac's ease of use," said Falcon President M. Dendy Young. "The Mac is a natural for most of the people working on the Hill. They're interested in politics, not computers."

*See Falcon, next page*

## Microsoft's Hallman pushed out; product development reorganized

**By Andrew Gore**

Redmond, Wash. — If it were a murder mystery, there would have been no question as to who dunnit when Microsoft President Michael Hallman was forced to step down last week in a major organizational shake-up.

Hallman is being replaced by a three-man Office of the President consisting of Steve Ballmer, who headed up Microsoft's operating system business and will now be in charge of the Worldwide Sales and Support Group; Frank Gaudette, Microsoft's chief financial officer, who will also head up the Worldwide Operations Group; and Mike Maples, former head of Microsoft's Applications Group, who will now head up the company's newly formed Worldwide Products Group.

Hallman, who had been Microsoft's president for less than two years, reportedly was asked to step down by Bill Gates, Microsoft founder and chairman, because the job had outgrown one person.

Hallman was offered a job in the tribunal but declined, the company said.

Microsoft last week also reorganized its product development operations into five divisions under the new Worldwide Products Group:

- **The Systems Division** will be responsible for MS-DOS, Windows, Windows NT, Pen Windows, LAN Manager and multimedia system software development.
- **The Desktop Applications Division** will oversee Word, Excel, Project and PowerPoint development, along with application marketing.

*See Microsoft, next page*

**Microsoft's new development organization**

## MCN gets help from others

**By Shawn Tomlinson**

Modesto, Calif. — The Macintosh Consultants Network is getting a boost in visibility from vendors who support the organization's efforts to standardize Mac consulting.

A new program called "We Support the MCN," in which companies sport MCN stickers on their products, has been launched to increase MCN's profile and to raise awareness among vendors of qualified consultants.

According to MCN Conference Manager Kevin Doyle, who created the program, Dayna Communications Inc., Claris Corp., Microsoft Corp., Novell Inc. and ACIUS Inc. are among the first companies to verbally commit to the idea.

"These are vendors who have supported us from day one," Doyle said.

The "We Support the MCN" sticker is similar to the System 7-compatible stickers most Mac

*See MCN, next page*

## Microsoft aims to get Windows logo on PC hardware and packaging

**By Jon Swartz**

Redmond, Wash. — Microsoft Corp., which already has a dominant position in the Mac and DOS software markets, has quietly started a plan that could set a standard for hardware systems running Windows.

The company has struck up verbal agreements with Dell Computer Corp., Digital Equipment Corp. and Tandy Corp. and is encouraging other makers of IBM PC and compatibles and peripherals to display a Windows logo on their product packaging, advertisements and, in some cases, their machines by the end of the year.

One logo indicates that manufacturers have met certain technical specifications designed to optimize the performance of Windows. Another logo indicates that, besides meeting technical specifications, the PC maker has preinstalled Windows.

Microsoft has sold 9 million copies of Windows 3.0 since its release in May 1990. Windows 3.1 is expected to ship in April.

The Redmond, Wash., company expects other computer makers to use the Windows logo. "We're getting a very good response from manufacturers," said Jonathan Roberts, Windows 3.1 marketing manager.

Roberts said Microsoft hopes the logo plan will help establish Windows as the definitive PC standard.

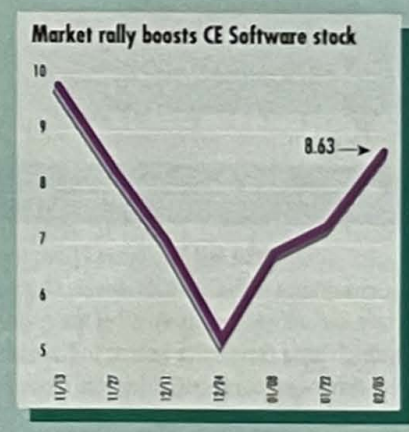
The logo plan comes on the heels of a similar promotion launched by chip maker Intel Corp. last July. Under the "Intel Inside" ad campaign, nearly every PC maker has displayed the slogan, with Intel picking up part of the tab. Microsoft, however, won't be offering any financial incentives to PC makers.

"Hardware companies are being squeezed by margins. They're looking for anything that puts more value — however soft — on their product," said Nancy McSharry, manager of the PC software program at International Data Corp. in Mountain View, Calif. □

**StockWatch**

| | 02.05.92 CLOSE | WEEKLY % CHANGE |
|---|---|---|
| **Apple** | 66.13 | 4.55 |
| SOFTWARE DEVELOPERS | | |
| Adobe | 64.25 | 1.58 |
| Aldus | 33.50 | 0.75 |
| Caere | 14.25 | -6.56 |
| CE Software | 8.63 | 32.69 |
| Microsoft | 127.25 | 2.21 |
| Symantec | 48.00 | 15.66 |
| PERIPHERALS VENDORS | | |
| CMS | 3.13 | -3.85 |
| HP | 62.25 | 3.75 |
| Mass Micro | 1.22 | 0.00 |
| QMS | 14.75 | 1.72 |
| Radius | 10.75 | 2.38 |
| RasterOps | 16.00 | 16.36 |
| Sigma | 7.00 | -6.67 |
| STORAGE | | |
| Conner | 19.00 | 2.70 |
| Maxtor | 8.81 | 8.47 |
| Quantum | 16.25 | 12.07 |
| Seagate | 14.00 | 8.74 |
| INDUSTRY INDICATORS | | |
| DEC | 54.38 | 7.41 |
| IBM | 91.25 | -0.68 |
| Motorola | 78.75 | 3.62 |
| Sun | 33.50 | 12.13 |
| Dow Jones | 3257.60 | 1.01 |

*Compiled by Nordby International Inc.*




*The Bulls returned to Wall Street last week following positive earnings reports and a rebounding bond market. CE Software Holdings Inc., the parent company of CE Software, led all StockWatch companies with a 32.7 percent jump to $8.63 a share. The West Des Moines, Iowa, company also reported a 31 percent increase in first-quarter fiscal 1992 sales, to $2.5 million.*

# CMS cuts 20% of its employees

By Henry Norr

Irvine, Calif. — CMS Enhancements Inc., long a major supplier of storage peripherals for the Mac, last week laid off 20 percent of its employees, including much of its Mac staff, according to sources at the company.

Among the 76 employees who lost their jobs were two of CMS' three Mac product managers and one of the two engineers responsible for testing Mac drives, sources said.

In the first quarter of fiscal 1992, which ended Sept. 30, 1991, the company recorded a net loss of $894,000 on sales of $29.8 million, down from $33.2 million for the same quarter the year before. In fiscal 1991 CMS posted a net loss of $8.5 million and sales of $130.1 million. Sales were $187.7 million in 1990.

CEO Jim Farooquee said the layoffs were necessary because of the decline in sales, but also "a blessing" because they "give the company an opportunity to move forward in new directions." CMS last year began marketing a line of low-cost Korean-built IBM PC clones and SPARC-based systems. The company now plans to move into marketing of integrated hardware and software solutions for vertical markets, using Intel-based platforms first, but eventually Mac and Sun systems as well, Farooquee said. □


After Thousands of Hours Working With CD-ROM Drives, I Knew The Best When I Saw It.

Scholar, pianist and university professor Robert Winter is the author of the best-selling CD-ROM music software ever marketed—the Voyager CD Companion to Beethoven's 9th Symphony.

"Over the last two years I have spent more than 3,000 hours working with CD-ROM drives. I have used at least a half dozen drives, including those from all of the major manufacturers. Through hard experience I came to have very specific desires for the ideal drive — one I thought I would never see.

When I found the Chinon drive at a trade show, I couldn't believe my eyes — or ears. All the things I was looking for were there: a small (but elegant!) footprint for easy portability; a separate power supply to eliminate cooling fans and overheating; a fast 350 ms access time; direct RCA audio outputs; a headphone jack with full-range volume control; rugged construction to withstand heavy use and travel; and a great price. It's the drive I recommend to anyone who asks — with only raves from those who have purchased it. Those who claim that CD-ROM is a slow, stodgy technology haven't tried a Chinon drive."

Chinon drives are available in external versions for both IBM-compatible and Macintosh computers, and a half-height internal version for IBM compatibles.

Experience Chinon's exciting CD-ROM/Audio drives for yourself. Call TOLL-FREE for the reseller nearest you. Whether for work or play, data or audio, it'll be music to your ears.

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## Microsoft

*From previous page*

application architecture and interoperability.

- **The Database and Development Tools Division** will oversee languages and data access products.
- **The Consumer Division** will manage Works, Publisher, Money, Flight Simulator and multimedia publishing.
- **The Workgroup Division** will oversee Mail, Schedule + and MAPI (Messaging Application Programming Interface) development. It also will help integrate groupware functionality into other Microsoft applications.

The close integration of system software and application development has caused some industry observers to question the integrity of Microsoft's so-called Chinese Wall.

The wall supposedly was built to prevent the company's applications group from having early access to new system software technology and thus gaining an unfair advantage over third-party Windows and DOS developers.

"There's always been two people looking at software and applications, Bill and another person, and that's not going to change," said Maples. "The reorganization won't change the way the process works between any development groups." □

## MCN

*From previous page*

developers affix to their product packaging as an advertising promotion, Doyle said.

The organization also has set up a toll-free information telephone number for customers.

The MCN promotion is another sign of the Mac's emergence as a mainstream business computer, said Pieter Hartsook, editor of The Hartsook Newsletter in Alameda, Calif.

MCN is at 3600 Sisk Road, Suite 3D, Modesto, Calif. 95356. Phone (209) 545-0569 or (800) 729-4626; fax (209) 545-0279. □

## Falcon

*From previous page*

Since it was founded in 1986, Falcon has enjoyed an exclusive license to sell Mac hardware and software through the GSA's approved products list. The list allows individual government users to purchase products without going through time-consuming procurement procedures that, to the public's shock, resulted in expenditures of $5,000 for ball-peen hammers.

As Falcon's sales have skyrocketed from $19.6 million in 1987 to an estimated $170 million in 1992 , it has had to expand its facilities worldwide to sell outside its Washington, D.C., stronghold.

"[Computer] companies can't succeed if they don't know the rules of the federal market inside-out," said Jim Kerrigan, an analyst at Input Inc., a Washington-based market research company. "Falcon has been extremely well-organized in its selling procedures."

Because federal market sales are tightly monitored for influence peddling, Young said, Falcon spends almost half the year conducting mini trade shows at federal agencies such as the Environmental Protection Agency and FBI to legally visit and educate users.

"It's not the kind of environment where deals are made on a golf course," Young said.

Falcon's investment in custom software and user education should pay off, even as the government's budget shrinks, according to Young.

He said cuts to the Navy in troops and hardware put a premium on increased individual productivity. "That increases our opportunities in the market," he added. □

## MacWEEK index
### JANUARY TOP SELLERS

The top 10 products by dollar volume and category at ComputerWare, a chain of Mac-only resellers in California. The list does not include Apple-label products.

| DEC. | JAN. | Hardware |
|---|---|---|
| * | 1 | SuperMac VideoSpigot NuBus |
| * | 2 | Wacom 6x9 Digitizing Tablet |
| 8 | 3 | Microtek ScanMaker 600ZS Color Scanner |
| 4 | 4 | Hewlett-Packard DeskWriter printer |
| * | 5 | PLI Infinity 3.5" optical drive |
| 10 | 6 | PLI Infinity 40-Mbyte removable drive |
| * | 7 | PLI Infinity 88-Mbyte removable drive |
| 1 | 8 | GCC Business LaserPrinter Elite |
| * | 9 | Mobius 030 One-Page Display System |
| 2 | 10 | Hewlett-Packard DeskWriter C color printer |
| | | **General applications** |
| * | 1 | Microsoft Word 5.0 |
| * | 2 | Aldus PageMaker 4.2 |
| 4 | 3 | FrameMaker 3.0 |
| 2 | 4 | Microsoft Excel 3.0 |
| 3 | 5 | QuarkXPress 3.1 |
| * | 6 | Lotus 1-2-3 for Macintosh |
| 9 | 7 | Pastel Development DayMaker |
| 10 | 8 | The Far Side Calendar |
| 5 | 9 | Aldus Persuasion 2.1 |
| * | 10 | DeltaGraph Professional |
| | | **Graphics and multimedia** |
| 8 | 1 | Fractal Design Painter |
| 5 | 2 | MacroMind-Paracomp Director 3.0 |
| * | 3 | Adobe Premiere |
| 1 | 4 | Adobe Photoshop 2.0 |
| * | 5 | MacroMind-Paracomp MacRecorder 2.0.3 |
| * | 6 | MacroMind-Paracomp Three-D |
| 2 | 7 | Deneba Canvas 3.0 |
| * | 8 | MacroMind-Paracomp Magic |
| * | 9 | Articulate Systems Voice Navigator II |
| 4 | 10 | Adobe Illustrator 3.2 |
| | | **Connectivity** |
| * | 1 | Global Village PowerPort v.32 |
| 3 | 2 | Global Village TelePort/Full FAX |
| 6 | 3 | Asanté MacCon+ IIE64 Ethernet card |
| 2 | 4 | Farallon PhoneNET Connector 10-Pack |
| * | 5 | Asanté EN/SC Ethernet module |
| 1 | 6 | Abaton InterFax 24/96 modem |
| * | 7 | Global Village TelePort (send-only FAX) |
| 10 | 8 | Synergy Software VersaTerm Pro 3.5 |
| * | 9 | DataViz MacLink Plus! PC 6.0 |
| * | 10 | SupraModem 2400 |
| | | **Utilities** |
| * | 1 | Fifth Generation Suitcase II 2.0 |
| 1 | 2 | Symantec Norton Utilities for Macintosh 1.1.2 |
| 3 | 3 | Now Utilities 3.0 |
| * | 4 | Salient AutoDoubler |
| 7 | 5 | Berkeley Systems After Dark 2.0 |
| 2 | 6 | Symantec AntiVirus for Macintosh 3.0 |
| * | 7 | CE Software QuickKeys 2 v2.1 |
| 6 | 8 | FWB Hard Disk ToolKit |
| * | 9 | PowerUp! Address Book Plus 2.0 |
| 5 | 10 | La Cie Silverlining 5.33 |

*Didn't make top 10 last month.

# GE Capital adds Mac to lease list

By April Streeter

Cupertino, Calif. — Apple USA and GE Capital Computer Leasing last week began a corporate leasing program for Fortune 500 companies.

Apple USA officials said the Apple Corporate Leasing Program offers large customers a number of options, including allowing corporations to include mainframes and Macs on the same master lease. The program covers software and services as well as hardware.

Under the agreement, GE Capital sales representatives will call on Apple's targeted accounts as well as their own customer base to market the new lease option, according to D. Jay DiMarco, program director at GE Capital, General Electric Co.'s finance arm.

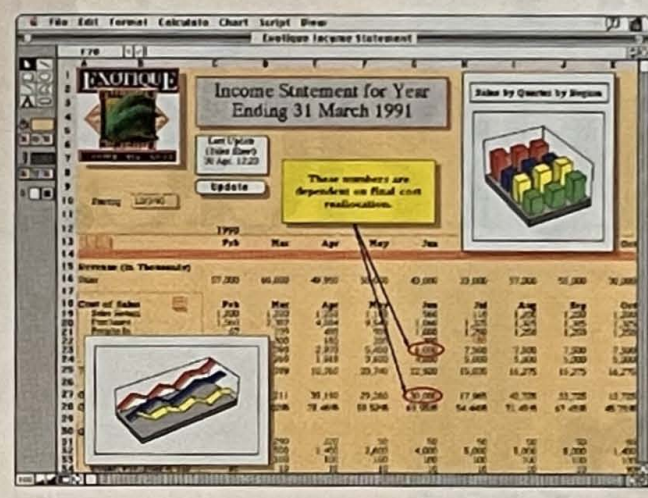
Customers will order and receive the equipment through a dealer of their own choosing, which will arrange the lease with GE Capital.

Although DiMarco refused to disclose any future leasing deals, he said six contracts were "in the hopper," including a large pharmaceutical company that plans to supply 2,000 PowerBooks to its sales force.

GE Capital also has leasing arrangements with IBM Corp. and Amdahl Corp.

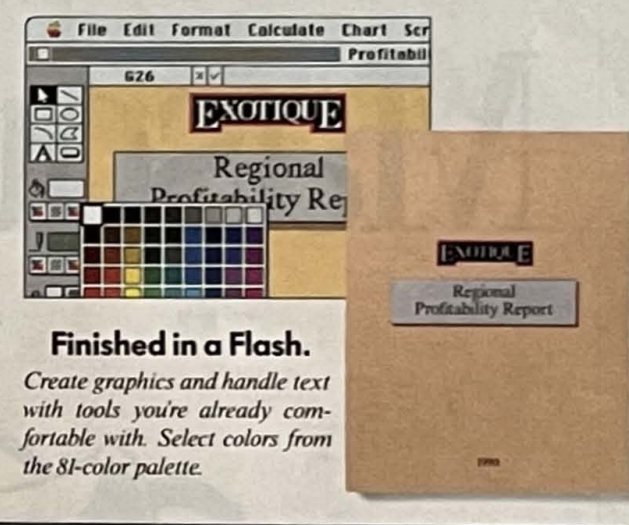
GE Capital Computer Leasing can be reached at (800) 453-2734. □


# The only thing missing from our new spreadsheet is the learning curve.



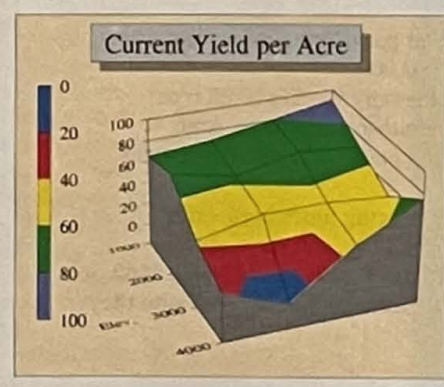

**So, You Want It All Now.**

*Claris Resolve gives you the power of a billion cells and 149 advanced business functions. Yet it's readily accessible — for example, zooming, so you can see the forest or the trees.*




**Finished in a Flash.**

*Create graphics and handle text with tools you're already comfortable with. Select colors from the 81-color palette.*




**Effortless Graphs.**

*Making your own charts and graphs with new Claris Resolve is unbelievably easy. Select one of 25 chart types.*

*Offer applies to owners of Microsoft Excel, Lotus 1-2-3, Informix Wingz, and Ashton-Tate Full Impact. Offer good in U.S.A. only. Expires June 30, 1992. ©1992 Claris Corporation. All rights reserved. For more information call 1-800-729-2292, ext. 10. In Canada, call 1-800-668-8948, ext. 48. Claris is a registered trademark of Claris Corporation. Resolve and Simply Powerful Software are trademarks of Claris Corporation. Apple logo and Macintosh are registered trademarks of Apple Computer, Inc.

**The System 7 Spreadsheet**

## Introducing Claris Resolve.

Claris Resolve

The new Claris® Resolve™ spreadsheet lets spreadsheet power flow to your fingertips freely and intuitively, for the first time. It utilizes interfaces, tools and commands familiar to anyone who's ever used a Macintosh.

Claris Resolve is packed with clever, interactive features that help people quickly get their footing. Like context-sensitive help. Automatic scripting. One-step charting. Instant zoom-in and zoom-out. Even a built-in spell checker.

But lurking just beneath the surface are enough tricks to inspire any power user. 149 built-in functions to help solve any business problem. 25 kinds of charts and graphs to excite the most jaded audience. Elegant, built-in database functions so you can swiftly access your data.

Yet, perhaps the most shining quality of Claris Resolve is how it exploits System 7's most powerful functionalities – *Publish & Subscribe* and *InterApplication Communication*. So you can effortlessly combine the power of Claris Resolve with other applications.

Claris Resolve is the latest addition to the Claris family of software for System 7 – a new generation of applications that work together more simply, more powerfully, more gracefully than any software for the Macintosh ever has before.

**Special offer for owners of other spreadsheets.* Get Resolve for only $99. Call 1-800-544-8554, ext. 50.**

CLARIS®

**Simply powerful software.™**

## Excel

*From Page 1*

tion with February, March, etc.

The new Excel can complete a data series based on a "best-fit" analysis, sources said. Using automatic linear regression, Excel could, for example, take a number series such as 2, 4, 6 and add 8, 10, 12 in the next three cells.

Excel 4.0 also will add Workbooks, double-clickable icons that represent a set of related spreadsheets residing anywhere on the network. Users can select which spreadsheets in a Workbook to display and can add or remove spreadsheets in an open Workbook, sources said.

Like Word 5.0, Excel 4.0 will have a modular design that lets users add design capabilities by dropping in modules, or Add-Ins in Excel parlance. New statistical and financial modules will add some 120 functions. Microsoft also will release a C application programming interface so third parties can create Add-Ins.

Version 4.0 will include help items called Wizards, which assist users in performing common tasks, such as creating charts. Wizards can ask users a series of questions about what they want and then generate the desired result.

Excel 4.0 also will add a Scenario Manager, which lets users automatically apply multivariable "what-ifs" to a spreadsheet.

The upgrade will support cross-tabulation, QuickTime and an expanded selection of charts that will now appear on a charting Toolbar for one-button access. Users will be able to view 3-D charts from different perspectives by clicking and dragging handles.

Meanwhile, two contenders for Excel's throne in the Mac spreadsheet market also are scheduled to get upgrades.

Claris Corp. of Santa Clara, Calif., will ship a minor upgrade to Resolve in late spring, sources said. The new version reportedly will include support for host access and the ability to import more file formats, including Excel 3.0.

Lotus Development Corp. of Cambridge, Mass., plans a year-end release for a new version of Lotus 1-2-3 for Macintosh, sources said. Lotus reportedly will add SmartIcons, improve file importation and increase performance. □

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## VIM

*From Page 1*

to Gursharan Sidhu, Apple's technical director, who chaired the VIM group. Apple said VIM is an integral part of its Open Collaboration Environment (OCE), which will add workgroup capabilities to System 7.

Sidhu and executives from the VIM companies said details on how the specification has been improved will not be made public until it ships to developers in March.

The major improvement seems to be increased support. Novell gave OMI a lukewarm welcome in September, saying it would support that interface only if users demanded it. Last week, the company said it will build the VIM interface into future versions of its NetWare Message Handling Service (MHS). MHS is a foundation for cross-platform E-mail and groupware applications.

"Novell's endorsement points to additional pressure on Microsoft's MAPI (Messaging API)," said Connall Ryan, president of Cambridge, Mass.-based ON Technology Inc. He said Novell's VIM endorsement carries a lot of weight in the developer community.

Beyond Inc., the Cambridge, Mass., E-mail developer, last week announced it will support VIM, although it had been hesitant about OMI. The company said it will continue to write mail systems tailored to native mail engines, such as Novell's MHS, Banyan Systems Inc.'s VINES mail and Apple's OCE.

Borland's endorsement may increase VIM's impact on Microsoft Corp.'s MAPI. A Windows company with less-than-energetic Mac ambitions, Borland competes with Microsoft on several fronts.

"There is a lot going for VIM with Borland's technology-oriented reputation and Lotus' cc:Mail, with more than 1.5 million installed users," said Michael Heylin, senior associate with Creative Strategies Research International, a Santa Clara, Calif., market research company.

But ON Technology's Ryan also said his company is not among the converted because VIM adds an additional layer of code to workgroup computing. "In order to have a finely tuned [collaborative application], there must be a hot link between the client and the server. We're not convinced yet [the VIM] will be that hot a link."

Sidhu described himself as glue holding the group together. One source close to the negotiations said it was surprising to see the Borland and Lotus representatives sitting at the same table.

"I don't think Borland and Lotus have talked face to face about this yet," the executive said. "Apple and Novell have been the peacemakers in this group."

But of such uneasy collaborations are market advantages born, said analyst Michael Heylin.

"Borland and Lotus compete less with one another than they do with Microsoft," he said. "I'm convinced they got together quickly, before Microsoft pushed MAPI." □

## Print architecture

*From Page 1*

also use this method, and an unreleased utility shown at last year's MacHack conference can add the same functionality to the Mac.

Users will be able to select printers through a dialog box in the print process, although the Chooser will likely remain in some form.

An improved spooler will work over networks, so users can spool files to a central print server.

Users will be able to print different-size pages from within a single document and will be able to set discrete page sizes, such as 2 inches by 2 inches, from the print dialog box. For example, a user could print a letter and its envelope from a single Microsoft Word document.

Applications must be rewritten to take advantage of the new features, although older applications will still be able to print.

For developers, the new print architecture's most significant feature is that it will provide standardized toolbox calls for features such as text rotation and gray-scale patterns. This means applications will print in a predictable manner, making it easier for printer manufacturers to develop Mac drivers.

"A Macintosh printer driver now takes about two to three man-years to write from scratch," said Steven Gully, product marketing manager at GDT Softworks Inc. in Burnaby, British Columbia. "If Apple comes out with a new print architecture, that development time could be cut down to two or three months."

Apple's printer product line leaves several gaping holes for other vendors to fill, such as color printers, large-format printers, wide-carriage impact printers and battery-powered portable printers, Gully said.

However, a more open Mac printer market will not necessarily mean users will have open minds about purchasing devices from other vendors.

"Apple controls about 80 percent of the Mac printer market. Mac people are very comfortable buying Apple printers," said Marc Boer, an analyst at BIS Strategic Decisions, a market research company in Norwell, Mass. "If you're used to getting your food at a certain table, it will take a lot of convincing to pull you away from that table." □

### New print architecture

- Printers show up on desktop as icons.
- Users can print by dragging files to printer icons.
- Users can select printers from a dialog box rather than the Chooser.
- Users can easily select non-Apple printers.
- Users can set discrete page sizes.
- Spooler works over network.
- Developers get standard toolbox for writing print drivers.

## OCE

*From Page 1*

▸ **It's a small world.** The World volume brings all users, workgroups, devices and services on a network into a single window on the desktop. Each will be represented by an icon in the window.

Users will be able to send documents to coworkers simply by dragging file icons to the World window and dropping them into icons representing other users and groups. OCE will then add the recipient's address to the file and send it across the network.

Users also will be able to browse database and information services on the network, even those that require a gateway, through the World volume. By adding filters defined by the user or developed by third parties, a user could collect all the new entries on a remote volume first thing each morning. The resulting files then would appear in the Mail volume window.

▸ **Mail and more.** On its surface, the Mail volume will provide a view of all incoming messages and documents. Beyond that, it will allow standard applications, including word processors, spreadsheets and personal information managers, to act as a messaging front end, according to sources. To send a letter via OCE, for instance, users will need only to create the document in an OCE-compatible program, add an address and drag the file's icon to the Mailbox window.

"Applications will be able to trigger mail events based on almost any event," a developer said. "For example, when you type a predefined string into a document, such as someone's name, the application will generate a copy, send it to the person whose name you typed and then update that copy each time you save."

▸ **Data wrappers.** The OCE Directory Manager will work in the background to sort and filter information based upon a variety of fields attached to each file on networked volumes. In addition to the file name, users will be able to append keywords, events and customized fields to a file. This is accomplished through data wrappers, a layer of information about a file "wrapped" around its contents.

Developers are expected to offer a variety of custom data-wrapper capabilities. Wrappers could be used to create hot links between specific applications and to instruct the recipient program on how to handle the message data.

For example, a data wrapper sent by a scheduling application could tell a mail front end to send a reminder to each person attending a meeting.

▸ **Business cards.** Trading address information will be as easy as exchanging cards during a meeting.

When address information is dragged from the World volume, it reportedly will become a file represented by a Business Card icon. The file can be transferred electronically or on disk to other users, who then can drop it into their World volume. As long as the second Macintosh has a network connection to the volume named on the card, mail can be sent to that address simply by dropping a message on the icon.

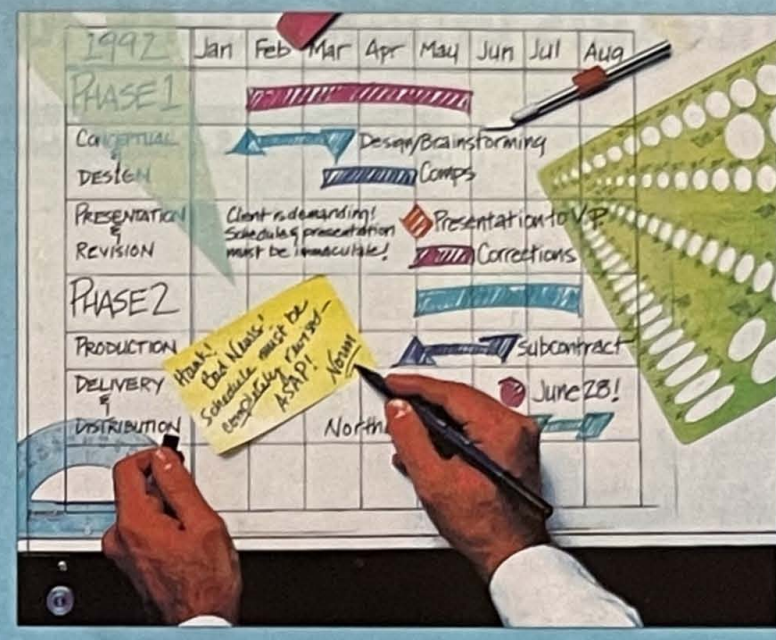
▸ **Live free or retail.** Apple officials are reportedly debating how OCE will be packaged. Developers said a server version that runs on top of AppleShare 3.0 and delivers fast performance will definitely be sold as a retail package.

The slower, peer-to-peer OCE package, however, may not be bundled with system software. Instead, Apple may sell the software, which one developer called a "collaborative Personal AppleShare," as a retail package or allow developers to bundle it with OCE applications.

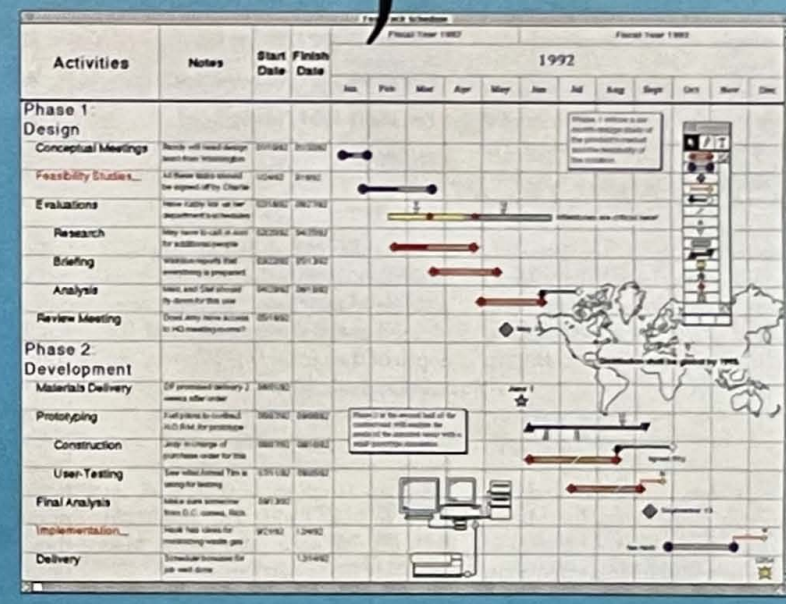
Potential OCE developers are reportedly urging Apple to bundle the product to ensure a market for their applications. "Developers need Apple to ship the peer-to-peer OCE with System 7 or, at least, let us bundle it," said a developer. "It will be useless to write OCE applications if everyone doesn't have it." □


FREE Demo Kit

Schedule




Projects

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# Price cuts attack clones, lure buyers

By Jon Swartz

Cupertino, Calif. — The largest price cuts in Apple's history had consumers flocking to computer stores and corporate buyers considering more Mac purchases.

In an effort to go after second-tier manufacturers of IBM PC compatibles, Apple last week slashed Mac prices on virtually all its desktop models, plus the PowerBook 100. As expected, the cuts were as much as 37 percent (see MacWEEK, Feb. 3 and Jan. 27). The clone manufacturers, meanwhile, weren't standing still: Dell Computer Corp. of Austin, Texas, last week lopped 38 percent off its PC prices.

"Our goal is to gain market share and go after market leaders," said Brodie Keast, Apple's director of CPU product marketing. "We don't intend to match the lowest-priced clones because we have differentiated products. But we do intend to be competitive."

Ironically, the Mac IIci, which received the biggest cut, could be in short supply, dealers reported (see story, Page 3).

Analysts said Apple's pricing strategy may be merely a precursor to a wave of price cuts among PC manufacturers, such as Dell, who face fierce competition exacerbated by recession.

"Apple has joined the discount-pricing fray. They have to in order to compete with clone makers and Windows," said Pieter Hartsook, editor of The Hartsook Letter in Alameda, Calif.

Apple also is concerned about Windows 3.1, Hartsook noted. The upgrade, expected to ship in April, will provide a variety of interface and performance improvements for Microsoft Corp.'s graphical user interface, as well as new multimedia extensions.

**Apple's new pricing structure**

| Product | Old price | New price | % change |
|---|---|---|---|
| Mac IIfx 4/SD | $7,369 | $5,099 | 31 |
| Mac IIfx 4/80 | $8,069 | $5,799 | 28 |
| Mac IIfx 4/160 | $8,669 | $6,399 | 26 |
| Mac IIci 5/SD | $5,269 | $3,299 | 37 |
| Mac IIci 5/80 | $5,969 | $3,999 | 33 |
| Mac IIci 5/160 | $6,569 | $4,599 | 30 |
| Mac IIsi 3/40 | $3,769 | $2,499 | 34 |
| Mac IIsi 5/80 | $4,569 | $2,999 | 34 |
| Mac LC 4/40 | $2,649 | $1,699 | 36 |
| Mac LC 4/80 | $2,999 | $2,049 | 32 |
| Mac Classic 2/40 | $1,499 | $1,349 | 10 |
| Mac Classic 4/40 | $1,649 | $1,499 | 9 |
| Mac Classic II 2/40 | $1,899 | $1,549 | 19 |
| Mac Classic II 4/40 | $2,049 | $1,699 | 27 |
| Mac Classic II 4/80 | $2,399 | $1,849 | 23 |
| PowerBook 100 2/20 (w/o external floppy) | $2,299 | $1,999 | 13 |
| PowerBook 100 2/20 (with floppy) | $2,499 | $2,199 | 12 |
| PowerBook 100 4/40 (w/o external floppy) | New | $2,399 | NA |
| PowerBook 100 4/40 (with floppy) | New | $2,599 | NA |
| StyleWriter | $599 | $399 | 33 |

*Source: Apple*

Whether the discounts were a defensive or an offensive move on Apple's part, most buyers were pleased and a little amazed at the depth of the cuts.

"We had heard Apple might reduce prices 15 percent. But this made our jaws drop," said Ben Berry, manager of computer services at Hughes Aircraft Co. in Westchester, Calif. He predicted the cuts will spur sales of the Mac IIfx and IIci, in particular.

Patricia Elste, presentation analyst at Pacific Gas Transmission in San Francisco, said her predominantly PC site now will seriously consider buying Macintosh, in light of the company's tight computer budget and Apple's lower prices.

Customers drawn to their dealers by news of last week's cuts found, however, that in most cases actual prices hadn't fallen as sharply as they had hoped, because changes in dealer costs didn't match those in Apple's suggested retail prices.

The suggested price for a Mac IIci 5/80, for example, fell 33 percent to $3,999, but the dealer price fell only 22 percent. Jerry Hanlon, manager of BitznBytes Computer Center Inc. in Concord, N.H., said his store had cut its price 25 percent to $3,400.

Apple's timing infuriated some users who had taken advantage of the company's "Right Now" promotion, which offered $800 rebates for multiple Mac purchases. The program ended Feb. 2, just two days before Apple's announcement of the price reductions.

No matter how much Apple slashes retail prices, the company is in a no-win situation trying to match price tags with clone makers, according to John Murphy, editor of The PC Street Price Index in Cherry Hill, N.J.

Gateway2000 of North Sioux City, S.D., for instance, is offering a 25-MHz, 80386-based machine for about $1,850. "It's dependable and ships on time. That's what most users ask for," Murphy said. □

# Faster LCD panels to come In Focus

By Nathalie Welch

Tualatin, Ore. — In Focus Systems Inc. said it may be able to trim the cost of showing Mac-based video presentations with new LCD projection panel technology.

In Focus' proprietary technology, termed "active addressing," allows less-expensive passive-matrix LCD projection panels to achieve the rapid response time needed to project video animation, which runs at 24 to 30 frames per second.

In Focus said it expects to produce its first monochrome models using active addressing by next year and eventually will produce color models as well.

The technology could extend beyond the presentation graphics market, analysts said. For instance, in the portable computer environment, active addressing could be used for lower-cost screens, said Katherine Bull, industry analyst at Dataquest Inc., a market research company in San Jose, Calif.

In Focus' active addressing uses proprietary algorithms that intelligently distribute many small pulses over the frame period. The company said a prototype display achieved 50-millisecond response time with 30-1 contrast.

In contrast, most passive-matrix flat panels turn pixels on and off one row at a time, causing long waiting periods between responses and making the devices inadequate for video display.

Active-matrix LCD technology achieves video rates by placing transistors at every pixel location on the screen. This construction process results in low manufacturing yields and adds about $2,000 to $3,000 onto end users' costs, Bull said.

In Focus Systems Inc. is at 7770 S.W. Mohawk St., Tualatin, Ore. 97062. Phone (503) 692-4968 or (800) 327-7231; fax (503) 692-4476. □

## Novell

*From Page 1*

based data-manipulation language, into a format understood by applications built on Btrieve, Novell's record manager. Btrieve has become an industry standard, with support from a long list of major business accounting, project-management and sales-management systems.

"Until now we have not been able to find a useful, convenient cross-platform database," said Mike Winn, senior analyst in the Applications Development Group of Atlanta-based Georgia Power Co. Winn, beta tester for NetWare SQL 3.0, said that after overcoming some initial problems with writing to the NetWare server from DAL applications, he is impressed with the product.

"The first betas were quite slow, but it is much faster now," Winn said. "Now I'm starting to get a warm feeling about [NetWare SQL]. It looks real promising for us."

Georgia Power had considered Oracle as its cross-platform database, but decided against it, he said, because "we're a token-ring shop and we couldn't use Oracle on token ring without adding special drivers on all our Macs."

His employer, according to Winn, faces a problem many companies do: Information workers use IBM PCs or compatibles, while executives tend to favor the Mac. Making an executive information system work in the mixed environment was very difficult because the only thing the two platforms had in common was NetWare.

Pricing for NetWare SQL 3.0 will range from $795 for five users to $10,995 for a 200-user version.

A runtime version of the NetWare 3.11 network operating system will be bundled with versions of the SQL NLM for 20 or more users, allowing network managers to create a dedicated database server on a NetWare network.

Separately, Novell last week announced an upgrade that adds support for SNMP (Simple Network Management Protocol) to NetWare for Macintosh 3.0, plus an initiative to rally the industry around a new network-management standard (see story, Page 18).

Novell Inc.'s Development Products Division is at 5918 W. Courtyard Drive, Austin, Texas 78730. Phone (512) 346-8380; fax (512) 345-7478. □

## Drivers

*From Page 1*

Is it ready yet?,' " Rogge added. "We just tell them we're working as fast as we can."

Without the new driver, users of PostScript Level 2 printers have no immediate way to take advantage of such key Level 2 features as improved memory management and device-independent color. "PostScript Level 2 is really just a marketing gimmick without the new driver," said Marc Boer, an analyst at BIS Strategic Decisions, a market-research firm in Norwell, Mass.

The biggest benefit of the new drivers will be speed, with performance increases of up to 10 times on complex documents.

"People will not believe the difference in speed," said Chris Richter, marketing manager at Dataproducts Corp. in Woodland Hills, Calif. "We've run tests on our LZR 960, and print jobs that used to take five minutes take less than a minute with the [comparable] Level 2 Windows driver.

"We would love to show our Mac customers the advantages of Level 2 right now, but we can't until we get the driver," Richter added. "In a lot of ways customers don't know what they're missing."

PostScript Level 1 printers also will gain in speed from the new driver because the Mac's Print Manager is being retooled to generate PostScript code faster, said Michael Hopwood, product manager for Apple's Imaging Product Group.

PostScript Level 2 printers will see additional benefits with new drivers, especially when Mac applications are written to take advantage of Level 2 features. According to Rogge, the driver will support Apple's RGB (red, green, blue) color calibration extensions, due this year (see MacWEEK, Oct. 8, 1991). This will pave the way for color-management systems offering true device-independent color.

Other Level 2 features include caching of forms for multiple copies and composite fonts, which will make larger character sets possible.

Adobe is also working to add support for non-AppleTalk serial printers in the new driver, Rogge said. The driver will directly support Adobe's upcoming Carousel electronic document-interchange technology, he added. Users will be able to print files to Carousel format, as they now can print to PostScript.

Vendors now offering PostScript Level 2 printers for the Mac include Apple, Tektronix Inc., Dataproducts, Texas Instruments Inc. and NEC Corp. Other manufacturers, such as Hewlett-Packard Co., are expected to join this group shortly. □

# Quadram slashes 20MB floppy price

Norcross, Ga. — Quadram last week slashed the price of its QuadFlextra external 20-Mbyte floppy drive for the Macintosh. In the cuts, which extended to the entire QuadFlextra product line (see MacWEEK, Oct. 15), the Mac drive dropped $400 to $895.

Compatible floppy disks, formerly $30, are now $25 in single-unit quantities. The factory-formatted disks include a lifetime warranty.

Quadram is at 1 Quad Way, Norcross, Ga. 30093. Phone (404) 923-6666; fax (404) 564-5528. □

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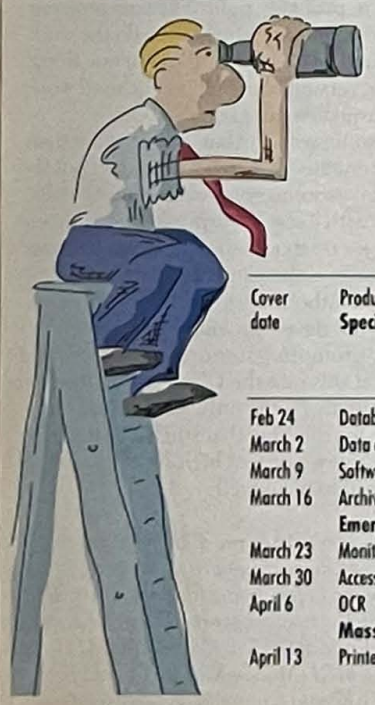

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# The software side of Apple

Now if Santa and his helpers waited until after Thanksgiving to get going on the gift season, there wouldn't be a gift season, which might explain what happened last December to many a retailer. The same thing holds true for Apple: If the engineers weren't hard at work now there would be no new products for the future.

Fortunately, Apple engineers are working, ensuring that the pipeline will always be filled with new and wondrous products. When that consumer Classic bundle hits the store shelves later this year, you can expect that it will include a new version of System 6. While not exactly System 7 Lite, it will sport a number of Finder features that closely mimic what System 7 users are used to. Features designed primarily for the modern Mac office, such as Personal AppleShare, publish and subscribe and the like, will not make the cut.

The mere mention of operating systems makes some of Apple's third-party developers nervous, especially when they peer into the future and realize that by next year Apple will be pushing five operating systems: System 7, A/UX-PowerOpen, Newton, Taligent and a top-secret fifth and mobile operating system. The developers fear that this number of operating systems just might diffuse the evangelical message somewhat.

**Raw Taligent.** The Knife anticipates an imminent announcement from Apple and IBM concerning Taligent. Joseph Guglielmi, IBM's top OS/2 marketing wizard, has been tapped to head up the company. Additional personnel announcements and the location of the company office should follow.

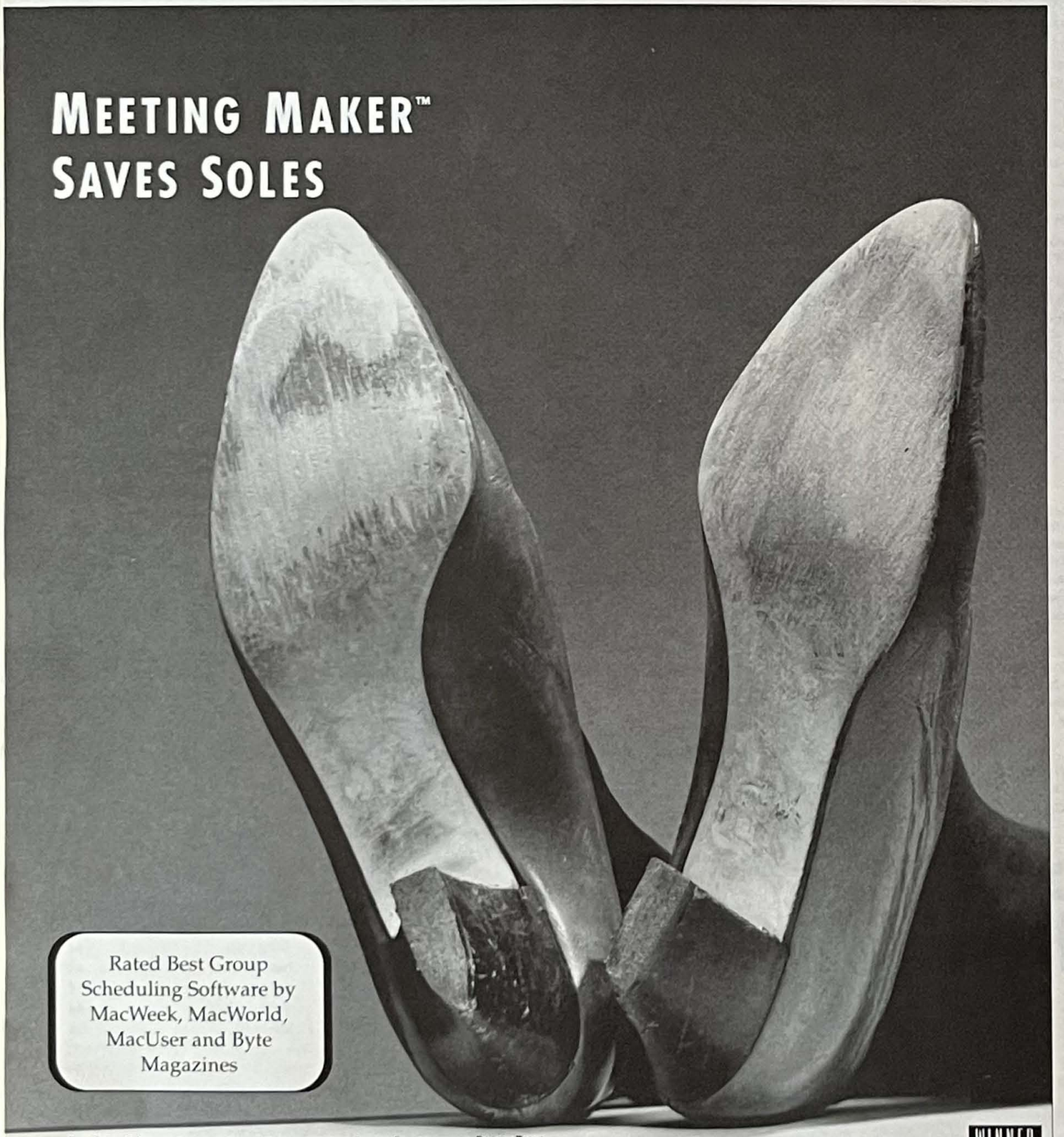
At Kaleida, however, things are beginning to get mired in a web of innuendo. On the one hand, the prospective head of the company, Robert Carberry, currently an assistant general manager at IBM, is occupying himself with devising compensation plans for potential employees. On the other hand, IBM is rumored to be having some second thoughts about KaleidaScript (formerly MediaScript) once it realized that the multimedia control language will be running on the Mac for a couple of years before it's available for IBM platforms. Strategic alliance and joint ventures or not, there are some skeptics at IBM who see little reason to give a competitor this kind of head start.

**Consider the source.** Few would doubt that Apple would like to introduce a 33-MHz Quadra in April, or even better, in March contemporaneously with the '030-based Mac LC II. But alas, such an introduction is not to be. A souped-up Quadra is still on schedule for this summer, probably in August. The cause for this timing is not all that mysterious either. Motorola simply can't guarantee Apple that it would be able to deliver the 33-MHz chip in sufficient quantity until the summer time frame.

**RISC gauntlet.** There's little chance of fishing in the murky waters of future Apple products, both hardware and software, without snagging a RISC Mac item. While some would have you believe that the RISC Mac is imminent, at Apple they'll tell you a different story (once you get 'em loosened up, of course). Apple management has decided that January 20, 1994, the 10-year anniversary of the Mac's introduction, would be a simply peachy date, and they're probably right. The only problem is that the engineers who have to do the work are a great deal less optimistic. For one thing, the actual version of the chip to be used won't even be available until late this year.

Then some will say that it takes more than software engineering to get a product out the door. It takes some good management skills together with a stable corporate environment. This week's textbook example of how wrong things can go is the Claris MacWrite Pro project. Some rather important members of the beleaguered development team have left recently, prompting some observers to speculate that at this rate the Claris word processor will eventually be the only word processor available for the Mac that still isn't System 7-savvy. There's been a high-level loss to the HyperCard team as well ... □

*Whether you are in the 40th year of your reign as the Queen or you're just visiting Guantánamo before being forcibly returned to Haiti, only the tipsters get the MacWEEK mugs. Find the Knife at (415) 243-3500, fax (415) 243-3650, MCI (MactheKnife), AppleLink (MacWEEK) and CompuServe/ZiffNet/Znac.*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